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NON-PRIOR SERVICE ACCESSIONS AND THE NAVAL RESERVE: READINESS AND RECRUITING

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June 2004

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This study examines the Reserve Non-Prior Service Accession (NPS) program, the effects of the current training process for Reserve readiness, and the effects of proposals to extend the initial active duty training period. In particular, the thesis examines the effects of the extended training programs on recruiting using data derived from a web-based survey of NPS Reservists. Multivariate logistic regression models are used to examine the effects of personal demographic characteristics on an individual's likelihood to enlist in the NPS program for a 28-day or a 77-day active duty training period. Separate models are used for each program and include a model with the Delayed Entry Program (DEP) as an option, and a model without it. Respondents report that they would have been slightly less inclined to enlist under the 28-day options whereas under the 77-day options respondents indicated that they would have been much less inclined to enlist. FY03 cost data is used to conduct the cost-effectiveness analysis, and indicates that the 28-day option would save an estimated $2.8 million, and decrease NPS personnel training time by 5 months. The 77-day option would cost an estimated additional $46.1 million and decrease NPS personnel training time by 21 months. Based on the analysis of this thesis, it is recommended that the current NPS accession program be phased out and the 77-day with DEP training alternative be implemented. Additionally, the recruiting focus should shift to target high school senior and recent graduates.

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NON-PRIOR SERVICE ACCESSIONS AND THE NAVAL RESERVE: READINESS AND RECRUITING

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ABSTRACT

This study examines the Reserve Non-Prior Service Accession (NPS) program, the effects of the current training process on Reserve readiness, and the effects of various proposals for extending the active duty training period. In particular, the thesis examines the effects of the extended training programs on recruiting using data derived from a web-based survey of NPS Reservists. Multivariate logistic regression models are used to examine the effects of personal demographic characteristics on an individual's likelihood to enlist in the NPS program for a 28-day or 77-day active duty training period. Separate models are used for each program and include a model with the Delayed Entry Program (DEP) as an option, and a model without it. Respondents report that they would have been slightly less inclined to enlist under the 28-day options whereas under the 77-day options respondents indicated that they would have been much less inclined to enlist. A cost-effectiveness analysis is also conducted for both a 28-day and a 77-day training option. FY03 cost data is used to conduct the cost-effectiveness analysis, and indicates that the 28-day option would save an estimated $2.8 million and decrease NPS personnel training time by 5 months. The 77-day option would cost an estimated additional $46.1 million and decrease NPS personnel training time by 21 months. Based on the analysis of this thesis, it is recommended that the current NPS accession program be phased out and the 77-day with DEP training alternative be implemented. Additionally, the recruiting focus should be shifted to target high school seniors and recent graduates.

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I. INTRODUCTION

> The Reserve Force focuses on retaining our best people, recruiting to fill future needs, and sustaining end-strength….Our main recruiting concern at this time is that the sense of renewed patriotism following the attack upon our homeland did not translate into hikes in enlistment contracts. The major change Naval Reserve recruiting has experienced since September 11, 2001, is the decrease in Navy Veteran (NAVET) recruiting from about 80% of SELRES accessions having been Navy veterans to around 55%. We believe that this is due to the desire of many sailors to remain on active duty to support our nation's war on terrorism. Reserve recruiting is closely monitoring this trend. Coupled with the efforts outlined above and the renewed thrust into the non-prior service market, reserve recruiting is combating the downward trend in NAVET affiliations.
>
> VADM J. Totushek, USNR
> Chief of Naval Reserve
> Before the Personnel Senate
> Subcommittee on
> Active/Reserve
> Military Personnel Programs
> 13 February 2002

The Navy has downsized its forces considerably over the last decade. Ship decommissionings, base closures, and the elimination of aviation programs have been part of the downsizing process. At the same time, the role of the Naval Reserve has expanded. In the present world environment, the Naval Reserve Force is called upon to play an increasingly active role in the daily operational requirements of the active Navy. Currently, the Naval Reserve represents 19 percent of the Navy's total assets and is a significant force multiplier for the fleet to meet its growing global commitments.[1] Thus, a greater degree of integration between Reserve and active-duty forces has occurred.

A statement[2] by the Assistant Secretary of Defense (Force Management and Personnel) current Department of Defense (DoD) policy for Reserve utilization says:

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[1] Military Personnel Manual (MILPERSMAN), Chapter VIII-1.

[2] U.S. Senate Committee on Armed Services Report, 1992, as cited in Grissmer, *et al*. p. 1.

> It is DoD policy to place maximum reliance on Guard and Reserve units and manpower…. We plan to support military contingencies with Guard and Reserve units and manpower when they can be *available* and *ready* within planned deployment schedules on a cost-effective basis (emphasis in the original).
>
> Availability is a measure of whether the required numbers and types of units and individuals can be used by the National Command Authorities. For units, ready means the ability to deploy without unacceptable delay; for individuals, it means qualified to perform assigned missions or functions.[3]

One of the key challenges the Reserve Force has faced is the availability of trained personnel. Reserve units are different from active forces in that the individuals who comprise the Reserve are volunteers who participate on a part-time basis. They desire to perform their Reserve drill time close to home. Additionally, many reservists cannot afford to spend long amounts of time away from their jobs or schooling to complete extensive military training. Therefore, recruiters are constrained to recruit from local pools of available personnel with the hope that newly-signed reservists will already have some of the requisite training to perform their jobs.

In the past, the recruiting force has focused its efforts on recruiting eligible members who have just separated from Navy active duty service. These potential applicants are referred to as Navy veterans (NAVETS). However, as mentioned in the Admiral's statement above, there has been a decreasing number of available NAVETS, presenting a challenge for the Naval Reserve to meet its recruiting and end-strength goals. To mitigate this, the Naval Reserve has increasingly relied on the recruitment of non-prior service accessions (NPS). In 1999, the Non-prior Service Accession Program was implemented. The aim of this program is to recruit qualified enlisted individuals into the Naval Reserve and provide them with the required training needed to make them an asset to both the Reserve and active force.[4]

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[3] Joint Chiefs of Staff, JCS Publication 1-02, December 1, 1989, as cited in Grissmer, *et al.,* p. 1.

[4] COMNAVSERVTRACOM/COMAVRESFORCOM Instruction 3500.3, Non-Prior Service (NPS) Enlisted Personnel Accession Training and Qualification Management, October 2003, p. 2.

A. PURPOSE

The objective of this thesis is to examine readiness in the Naval Reserve as it relates to the issue of non-prior service (NPS) enlistee accessions and their lengthy training completion time. Historically, the focus has been on ensuring the Naval Reserve meets recruiting and end-strength goals. The NPS Program has been extremely successful in helping the Naval Reserve in meeting its end-strength goals. However, this program has had a secondary effect on Reserve readiness levels. In this thesis, models to analyze the effects of alternative policies for accessing and training NPS personnel are developed. In particular, several proposed alternatives have been made to reduce the required training time. This thesis will analyze the costs and benefits of each plan. It is hoped that this examination of the NPS program will assist the Naval Reserve Force in selecting the most effective method of training for NPS personnel.

B. FRAMEWORK FOR ANALYSIS

Alternative initial active-duty training sessions[5] of various lengths will be examined to determine the impact of each on Reserve recruiting and readiness. One proposed alternative is to lengthen the active-duty training period from the current 17 days to 28 days.[6] Another proposed alternative is to lengthen the active-duty training period from the current 17 days to 77 days.[7] Both options would offer Reserve recruits the option of participating in the Delayed Entry Program (DEP)[8] prior to starting the active duty period. While the 28-day program would be an extension of the existing Reserve training structure, the 77-day program would be implemented by integrating NPS personnel into the current active-duty basic-training pipeline.

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[5] These training sessions would occur immediately after an enlistee affiliates with the Reserve unless the individual selects the Delayed Entry Program option (DEP).

[6] Jeff Knuth and David Rudd, 28-Day Proposal Letter Dated 10 July 2003.

[7] The Sea/Air Mariners (SAM) program was similar to the proposed alternative in this thesis in that new Reserve recruits attended full basic training with their active-duty counterparts. This program was discontinued.

[8] The Delayed Entry Program allows an individual who enlists to specify a future reporting date to attend the active duty period for basic training. While in the program, the individual is under obligation to the military, but draws no pay or benefits.

An assumption of the analyses of the initial active-duty training proposals is that the achievement of an 80 percent readiness level[9] is unlikely if the Reserve implements one of these programs while continuing to recruit 26 to 36-year old enlistees. Members of the 17 to 21 year-old age group are more likely than members of the older group to consider affiliating if there is an initial training obligation. A second assumption is that attrition rates of NPS recruits will decrease if the active-duty training occurs immediately upon enlistment. This is based on the fact that a higher rate of NPS enlistee attrition currently occurs prior to attendance at basic training than after basic training is completed.[10]

The major constraint associated with a change in training programs is the requirement for additional personnel and infrastructure to accommodate the in-processing and training of the additional Recruits. Training now occurs at Reserve centers, but would be shifted to RTC Great Lakes if either of the alternatives were to be implemented. The requirement for additional instructors at Great Lakes would be greater for the 77-day proposed policy option than for the 28-day proposed policy option.

C. ORGANIZATION OF THE THESIS

This thesis contains seven chapters. Chapter I provides an introduction and general overview of the area of analysis. Chapter II provides background information on Naval Reserve recruiting issues and the Non-Prior Service Accession Program. Chapter III outlines the framework for analysis and conducts a literature review relating to Reserve Force personnel. Chapter IV describes model specification issues and the data used in the study. Chapter V contains the results of the analysis based on the multivariate models. Chapter VI presents a cost-benefit analysis of the alternatives to the current NPS training program. Chapter VII offers conclusions and recommendations based on the study.

---

[9] 80% is the minimum acceptable readiness level for a unit or command as defined by the Chief of Naval Operations.

[10] COMNAVRESFOR study on NPS attrition as cited by Knuth, Jeffrey and David Rudd, 28-day proposal letter dated 10 July 2003.

II. BACKGROUND

"The mission of the U.S. Naval Reserve Force is to provide mission-capable units and individuals to the Navy-Marine Corps Team throughout the full range of operations from peace to war."[11] To meet this mission the Naval Reserve Force employs over 690,000 reservists. These reservists make up the Ready Reserve, the Standby Reserve and the Retired Reserve. (For purposes of this thesis, the Standby and Retired Reserve components will not be addressed.) The Ready Reserve consists of units or individuals who are subject to involuntary recall to active duty in time of war or national emergency. It contains two Reserve component subcategories: the Selected Reserve (SELRES) and the Individual Ready Reserve (IRR). IRR personnel are pre-trained personnel not in a drill pay status, but with a legal, contractual obligation. The majority of these individuals have recently served on active duty and are completing their Military Service Obligation (MSO). SELRES are the primary source of trained units and personnel to augment the active forces in the event of war or national emergency. It is comprised of personnel drilling in a pay status in structured or in specific mobilization billets. SELRES personnel are managed and mobilized by Commander, Naval Reserve Forces (COMNAVRESFOR).[12] This thesis deals primarily with the SELRES drilling population, specifically with those SELRES who are NPS personnel. As of April 2004, the SELRES population is 70,757, of which 8,530 are NPS.[13]

A. RESERVE RECRUITING THROUGH THE MID-1990'S

In the past, the Reserve Recruiting Force focused a great deal of its efforts on recruiting eligible members who had recently completed active-duty service in any branch of the military. These potential applicants are referred to as Navy veterans (NAVETs) or other service veterans (OSVETs). However, because of a diminished number of available NAVETS and OSVETS in recent years due to high active duty

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[11] NAVPERS 15878H Navy Retention Team Manual.

[12] Reserve Component Categories of the Reserve Components of the Armed Forces, Office of the Assistant Secretary of Defense Reserve Affairs, November 2001.

[13] SELRES numbers derived from Commander Naval Reserve Force (COMNAVRESFOR) Operations Department (N3) and the SELRES database managers (N6).

retention, the Naval Reserve has turned to recruiting individuals with no prior military experience. Though NAVETs and OSVETs have been the preferred source of Reserve manpower over the years, individuals with no prior military experience have been a source of new accessions for the Naval Reserve since the 1970s. In the past, these individuals were recruited into the Reserves under the Sea/Air Mariner (SAM) program.[14] Under the SAM program an individual was recruited into the Reserves but served a maximum of one year on active duty for training. Following their active-duty time, he or she was obligated to affiliate with the Reserves for six years as a drilling reservist. Approximately ten years ago this program was suspended, forcing recruiters to recruit solely from the NAVET and OSVET populations. However, with the increasing success of active-duty retention in the last several years, the pool of potential NAVET/OSVET reservists has become progressively smaller. This phenomenon has made it more difficult for the Reserve Force to meet its end-strength requirements.

B. RESERVE RECRUITING SINCE FISCAL YEAR 2000

In Fiscal Year (FY) 2000, the Naval Reserve established the Non-prior Service Accession Course (NPSAC), now known as the Naval Reserve Accession Course (NRAC). NRAC includes two recruiting programs: the Advanced Pay-Grade (APG) program, which accesses personnel into temporary rates and pay-grades from E-3 to E-5; and the Accelerated Initial Accession (AIA) program, which accesses non-rated personnel into the temporary pay-grade of E-3.[15] These recruiting programs are in addition to the traditional recruiting of NAVETS and OSVETS into the Reserves.

A major difference between the original accession of non-prior service personnel and the current NRAC program is that full basic training and A-school advanced training

[14] The Sea/Air Mariners (SAM) program recruited individuals into the Naval Reserve, providing the individual with a maximum of 12 months of active duty for training before joining a Reserve unit. This program targeted the E1-E4 shortages the Navy was experiencing and has since been discontinued and replaced with the current Naval Reserve Accession Course (NRAC) program.

[15] COMNAVSERVTRACOM/COMAVRESFORCOM, p. 4.

are not provided in the newer program. The elimination of this training has had a profound effect on readiness and mobilization due to the increased time it takes for an NPS recruit under the NRAC program to complete necessary training requirements.[16]

Another difference between the two programs is that the original program targeted individuals directly out of high school, while recruits into NRAC have until very recently been between 26 and 37 years of age. This age requirement was imposed with the idea that older NPS individuals would be more mature, and would have higher levels of education and work experience. Theoretically, these qualities would enhance the value of the individual to the Reserve Force.

Recently, however, the Reserve Force has begun restructuring to include a larger percentage of junior personnel. The goal of this restructuring is to satisfy new end-strength requirements, and to provide NPS Reserve enlistees with the training necessary to make them assets to both the Reserve and active-duty forces. Thus, NPS individuals may now be recruited from age 21.

The NPSAC/NRAC recruiting program has been successful in that the Naval Reserve has either met or exceeded its recruiting goals for the past three years (Fiscal Years 2001-2003). As shown in Table 1, NPS accessions have steadily increased rapidly over this period of time, with the percentage of NPS recruits more than doubling between FY 2001 and FY 2003. However, the time it takes for these individuals to receive the required amount of training has created a challenge for the Naval Reserve in the areas of readiness and mobilization.

[16] R. K. Hudgens, Commander Naval Reserve Force letter dated 19 June 2003, p. 1.

Table 1. Reserve Non-prior Service Accessions, FY2000-FY2003 (From: COMNAVRESRECCOM, 2003)

Fiscal Year	Recruiting Goal	Total Number of Recruits	Number of Non-prior Service Recruits	Percentage of Non-prior Service Recruits
2000	18,410	14,907	2,983	20.01%
2001	15,250	15,345	2,806	18.28%
2002	15,000	15,335	4,970	32.41%
2003	12,000	12,169	5,071	41.72%

C. NPS PROGRAM ISSUE

Title 10, Section 10147 of U.S. code states that no individual serving in either the active or Reserve components of the military may be deployed or mobilized overseas if he or she has not accumulated 84 days of active service.[17] For individuals who enlist in active components, this requirement is met upon completion of their basic training and follow-on specialty training. Those individuals who affiliate with the Reserve immediately after completion of active-duty enlistment contracts have already completed the minimum time required for mobilization and deployment. However, a reservist serves only one weekend of Inactive Duty for Training (IADT) each month (drill time), and a 17-day Annual Training (AT) period of active duty per fiscal year. NPS individuals who enlist in the Naval Reserve do not complete the 84-day minimum until they have participated in the Reserve for well over two years. The long time period required for mobilization and deployment of the NPS enlistees adversely impacts Reserve readiness levels. One of the major issues that exacerbates the problem is that the attrition rate for NPS individuals is extremely high, averaging 35 to 40 percent for two years of service. NPS personnel account for over 60 percent of losses across the military Reserves Components.[18]

[17] DODINST 1215.19, Uniform Reserve, Training and Retirement Category Administration, 12 December 2000.

[18] Government Accounting Office, "Reserve Components: Factors Related to Personnel Attrition in the Selected Reserve," Washington, D.C., April 1991.

D. NPS PERSONNEL ENLISTEE TRAINING

Due to the increasing number of NPS personnel recruited into the Naval Reserve, the Reserve designed a formal training track for NPS enlistees to meet the 84-day requirement. This training is divided into four phases:

PHASE I/PHASE II. This phase includes administrative processing, medical and dental screening, as well as physical training and ten hours of classroom instruction. These phases run concurrently and take the average NPS individual seven to nine months to complete.

PHASE III. This phase consists of an intense 17-day active duty course that encompasses military discipline, as well as physical, classroom, and experience-based training. This phase is designed to be a compressed form of active-duty basic training and is conducted at the Great Lakes Recruit Training Center (RTC). All NPS personnel must complete this phase within the first year of Reserve service.

PHASE IV. This phase includes additional Navy Military Training and professional requirements. NPS enlistees must complete all rating coursework to participate in advancement exams. This phase occurs at Naval Reserve Centers during drill periods and usually takes approximately 18 months to complete.

Completion of all four phases and the attainment of mobilization/deployment eligibility by an NPS enlistee usually requires 2.5 years. With the large increases in accessions into the NPS program over the last three years, the 84-day constraint makes it very challenging for the Naval Reserve to meet readiness and mobilization obligations.

As of April 2004, the drilling population is 70,757. 8,530 of these individuals are NPS personnel, 12 percent of the current drilling population. Of those, there are 7,886 NPS recruits who have not completed the 84-day requirement.[19] That is, 92 percent of the current NPS drilling population and 11 percent of the total Naval Reserve drilling population do not meet readiness requirements. These enlistees count against Reserve Force end-strength, but cannot be mobilized or deployed. Additionally, if an NPS individual leaves the Reserve Force prior to meeting the 84-day mobilization/deployment

[19] COMNAVRESFOR Operations Department (N3), April 2004.

requirement he or she must be administratively separated, and may not be placed in the Individual Ready Reserve (IRR) as currently defined.[20] This is an important consideration, since IRR members can be mobilized as necessary to fulfill national defense requirements.

[20] Veterans of Navy active duty, and active duty veterans from other services who affiliate with the Naval Reserve but fail to fulfill their drill obligations, may be placed in the IRR.

III. LITERATURE REVIEW

A. STUDY BY SHIELLS[21]

Shiells' 1986, study "Affiliation of Navy Veterans With the Selected Reserve," focuses on the recruiting of NAVETs into the Reserves. Market conditions such as unemployment rates and pay and demographic categories such as age, gender, race and education are used to forecast individual affiliation rates by rating and by geographic area. Using this information, the study examines the responsiveness of Reserve affiliation rates to pay changes.

An empirical model of the determinants of NAVET affiliation rates is developed and estimated using an active duty retention model as a guide. In this study, pay is measured by taking total annual reserve drill pay for a certain pay grade and length of service and incorporating annual affiliation bonus amounts. This combined amount is then adjusted for inflation. This allows the assumption that one extra dollar of pay will have the same effect on the probability of affiliating, whether that extra dollar comes from higher drill pay, increases in bonuses, or decreased price levels.

The data is derived from the Enlisted Master Records held by the Bureau of Navy Personnel. The data identifies individuals who left active duty between the years 1979 and 1984, and whether they had affiliated with the Navy Reserves by 1985. For consistency, only those affiliating within one year of leaving active duty are included. The data is further filtered to include only those first-term enlisted NAVETS in pay grades E-3 through E-6, under the age of 39, who are reenlistment eligible. Any individual who has a reserve obligation written into his or her initial active duty contract is also excluded. This left a total sample size of 147,735.

A maximum likelihood logistic estimation model is used to estimate individual affiliation probabilities. Estimation is done separately for each of the eleven rating groups. The dependent variable is the log of the odds that a NAVET would join the

[21] Martha E. Shiells, "Affiliation of Navy Veterans With the Selected Reserve," Center for Naval Analyses, December 1986.

Reserves. This is constructed as a dummy variable with 1 identifying those who affiliate with the Reserves, and 0 otherwise. The explanatory variables used in this study include real reserve wages (combination of annual drill pay and affiliation bonuses), unemployment rates (based on manufacturing workers for each state), pay grade, education (dummy variable that equals 1 for non-high school grad/earned GED, and is 0 otherwise), ability (dummy variable that equals 1 if AFQT scores in Category III or lower, and is 0 otherwise), sex, race, marital status, age, and census regions (based on home of record). As stated earlier, the pay variable consists of both annual drill pay and affiliation bonus amounts.

The results in this study found that there are significant, positive relationships between affiliation rates and both Reserve pay and civilian unemployment rates. The pay elasticities vary amongst rating groups, but do not vary amongst census regions. What is key in this study are the pay elasticities, which ranged from .77 for construction ratings to 1.95 for administrative and clerical ratings. On average, the affiliation bonus (at the level of $300 per year) results in a three percent increase in Reserve accessions for every 100 first-term eligible veterans.

B. STUDY BY KIRBY AND GRISSMER[22]

Kirby and Grissmer's 1993 study, "Reassessing Enlisted Reserve Attrition: A Total Force Perspective," examines NPS Reservists and their attrition rates prior to the expiration of the enlisted member's term of service. Those who had fulfilled their initial contractual obligation are not included as the interest is mainly early attrition rates. It is important to note how attrition is defined in this study: from a total force perspective, only losses to civilian life and not those individuals who return to some sort of active participation in either a reserve or active component should be included in the measure of attrition.[23]

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[22] Sheila N. Kirby and David W. Grissmer, "Reassessing Enlisted Reserve Attrition: A Total Force Perspective," RAND, 1993.

[23] Individuals who transfer to the Individual Ready Reserve (IRR) do not count as active participants and thus are considered to be losses.

The data used in this study includes individuals who entered the Reserves at different times, but had the same observation ending time of September 1988. So, for those who separated before this date, time served is actually known. However, for those who stayed, only time served from time of entry to the observed end time is known. Since this data is right-censored data,[24] the Kaplan-Meier estimator, which analyzes survival data containing censored observations, is used to study the allocation of attrition times and how the timing of attrition differs across different subgroups. The conclusions show that only 30 to 50 percent of all losses are to civilian life. About 25 percent of Reserve losses are individuals who return to some component of active service and 25 to 50 percent of losses return to serve in the same or a different Reserve component. Also, the two Air Reserve components have the lowest attrition rates with the Marine Corps having the highest. The authors conclude that the perception that reserve attrition is extremely high is not accurate. While there is considerable turnover of Reservists, not all of the status changes are losses to civilian life.

C. STUDY BY CAREY, *et al.*[25]

This 2002 study, "Alternative Concepts for Employing Navy Reservists: Making an Impact on Force Capabilities," focuses on recognizing and illustrating ways to improve capabilities and/or alleviate constraints in the Navy and Marine Corps. Specifically, the study attempts to document the potential impact that Reserves have on increasing overall force capabilities.

Seven areas in which the use of Reservists could extend the capabilities of the Active Navy are examined. These include carrier and carrier aviation, maintenance, surface combatants, assistance during nondeployed periods, and the emerging skill niches

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[24] Any unit that is removed from a reliability test prior to failure, or a unit that is in the field and is still operating at the time the reliability of these units is to be determined is called a right-censored data observation.

[25] Neil B. Carey, James M. Jondrow, Angelyn Jewell, Timothy A. Roberts, Carol S. Moore, Rebecca L. Kirk, John P. Hall, and John D. Keenan, "Alternative Concepts for Employing Navy Reservists: Making an Impact on Force Capabilities," Center For Naval Analyses, August 2002.

of linguistics, intelligence, and security/force protection. Characteristics unique to military service are accounted for when examining each area; these include forward deployment, transit time constraints, and IDTC[26] workup schedules.

The results show that all seven concepts would be feasible if the following conditions are met: additional funding for travel; inclusion of reservists in training and exercises specific to areas where Reserve augmentation would benefit the Navy; and most importantly, appropriate training to fill augmentation requirements. Specifically, a change in the current method of Navy Reservist training is required to emphasize rate and specific NEC training, especially in those areas that provide the highest return on investment for the Navy.

D. STUDY BY MARQUIS AND KIRBY[27]

Marquis and Kirby's 1989 study, "Reserve Accessions Among Individuals with Prior Military Service," examines the accession behavior of prior service reservists who served in the Active Army and either the Army Reserve or the Army National Guard in order to determine the optimal mix of prior and non-prior service personnel. The main focus is to discover which policies appear to increase accessions among prior service personnel, highlighting pay and compensation packages. Additionally, time elapsed between leaving active duty and affiliating with a reserve component is examined to determine whether skill degradation has occurred and whether these individuals are being placed in occupations that match the skills acquired on active duty. The authors emphasize that assigning new Reserve affiliates to Reserve occupations different than they previously held on active duty has detrimental training and readiness ramifications. If the training and experience received on active duty is not utilized in the Reserves, than the reduction in training costs thought to be gained by employing prior active duty members may never be realized.

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[26] IDTC is the Interdeployment Training Cycle, in which Navy ships deploy for short periods of time to perform exercises and test equipments and skills that are necessary for successful deployment.

[27] M. Susan Marquis and Sheila Nataraj Kirby, "Reserve Accessions Among Individuals with Prior Military Service: Supply and Skill Match," RAND, October 1989.

The authors use cohort data consisting of individuals who separated from the Active Army or its Reserve components between FY 1979 and FY 1984. Additionally, FY 1985 data is examined to see whether any individuals who separated from any of the Army components during this period affiliated with one of the Selected Reserve components.

The authors specify a Reserve affiliation model using two types of explanatory variables: baseline characteristics of each individual at time of separation such as age, years of service, and education; and measures that influence a return to Reserve service such as Reserve drill pay, affiliation bonuses, and civilian wage rate. Survival analysis using the Kaplan-Meier estimator is performed to examine both the distribution of times accession in the Reserve Components occurs and how the timing of accession differs amongst Reservists with differing demographic characteristics. This allows the authors to see how variations in one characteristic affect the timing of accessions. Additionally, to estimate the effects of one characteristic while controlling for all others, the authors use a Cox proportional hazards model.[28] This method is used because it is more flexible in its assumptions than alternative hazard models.

The results showed that those who separate from a Reserve component have a lower rate of rejoining the Reserves than those who leave active Army service and join the Reserves. Additionally, those who leave active service tend to affiliate with a Reserve component within one year of separating from active service whereas those separating from a Reserve component who reaffiliate with the Reserves tend to have a break in service of at least two years.

Military pay increases have a positive effect on Reserve accessions from both prior active duty personnel and prior Reserve personnel, especially amongst those with a break in service of less than six months. Affiliation bonuses also have a positive effect on the propensity to enlist in the Reserves after separating from active duty, with the

[28] D. R. Cox, "Regression Models and Life Tables (with discussion)," 1972, as cited by Marquis and Kirby, October 1989, pp. 11-12.

highest likelihood occurring within the first three months after separation. Civilian influences such as wage and unemployment rate also proved to have an influence over individuals' accession decisions.

Individual characteristics also proved to have a strong effect on accession. Older, more experienced individuals separating from active duty are much less likely to affiliate with a Reserve Component than younger, less experienced individuals. Additionally, those with less education and lower aptitude scores show a higher propensity to join the Reserves than their more educated counterparts.

The results for skill-set match showed that those who separate from active duty and affiliate with the Army Reserve rather than the National Guard were significantly more likely to have a skill match. Furthermore, the authors found that a skill match is less likely for more experienced personnel and more likely for those with short breaks in service.

The authors determined that the results from their study are valuable for future manpower policy decisions concerning the recruiting tradeoff of non-prior service versus prior service personnel, specifically when looking at the investments in training required for non-prior service personnel. Additionally, the results show that targeting certain demographic groups may increase accession and retention of prior service personnel.

E. STUDY BY TAN[29]

Tan's 1991 study, "Non-Prior Service Reserve Enlistments: Supply Estimates and Forecasts," examines the effects of recruiter behavior and the potential impact of competition for non-prior service individuals amongst the Naval Reserve, Army Reserve, and the Army National Guard. Additionally, models are used to develop predictions of non-prior service enlistments, using changing economic circumstances. Also, the author performs a data scrub and inputted missing data from Reserve Components Common

[29] Hong W. Tan, "Non-Prior Service Reserve Enlistments: Supply Estimates and Forecasts," RAND, 1991.

Personnel Data System (RCCPDS) files.[30] The author develops algorithms to account for missing data problems because there are several gaps in the historical data series, especially for AFQT scores, schools attended, and geographic location. This missing data causes problems in creating reliable cross-sectional time-series databases necessary for estimating aggregate supply models. These algorithms are used to impute the missing data for each Reserve component and thus prevent artificially lowering enlistment numbers.

The author estimates enlisted supply models for the Selected Reserve, and notes the following issues that must be considered: the distinctive features of the Selected Reserve of moonlighting and localized recruiting that emphasize the significance of controlling for characteristics of the local labor market; NPS enlisted supply models cannot be estimated separately from other enlistment categories because of recruiter responses to adjustments in recruiting targets of NPS and prior service recruits;[31] and a Reserve Component's ability to attract NPS recruits when competing with other Reserve and active duty Components.

Estimated supply parameters are used to forecast NPS reserve enlistments for Fiscal years 1987 through 1994. Forecasts are compared with actual NPS enlistments. These forecasts are also used to predict the feasibility of NPS enlistment goals under changing economic circumstances. This is done using Military Enlistment Processing Station (MEPS)[32] data to predict national NPS reserve enlistment numbers.

The study found that for the Army Reserve there is a negative tradeoff of three to four prior service enlistments for one NPS enlistment. That is, the corresponding prior service tradeoff for high quality NPS males is about five to one, signifying that they are approximately five times harder to recruit than prior service enlistees. However, for both

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[30] The Reserve Components Common Personnel Data System has since been replaced with the Navy Systems Information Personnel (NSIPS) system. These systems contain information on every Reservist in the Navy, regardless of category, and provides recruiting, enlistment, reenlistment, separation, and demographic information on each individual.

[31] Earlier studies have not accounted for the demand-side effects of recruiters and goals on Reserve enlistments, mainly because of the scarcity of goal data. Typically, NPS and prior service enlistments have been estimated using separate models. As cited by Tan, 1991, p. 7.

[32] MEPS are where new recruits are processed and prepared to be shipped to basic training.

the National Guard and Naval Reserve components, the tradeoff is positive, indicating that for these Reserve Components the recruitment of NPS is less difficult than prior service individuals. It should be noted that the author found these positive results to be irregular and recommends further research on these two Reserve components.[33]

There is little evidence found that competition amongst the components harmed recruiting efforts, with the exception of the Naval Reserve's SAM program, particularly in the recruitment of high-quality males. With regards to recruiting goals, all three components are shown to have unattainable recruiting goals given the assumptions of reasonable growth of the recruiter population. Only with significant expansion of recruiting assets could the forecast goals be met.

F. STUDY BY GRISSMER, *et al.*[34]

This 1997 study, "Prior Service Personnel: A Potential Constraint on Increasing Reliance on Reserve Forces," examines the possible constraint on the Reserve Forces' reliance on experienced veterans for Reserve service because of a decrease in availability of these individuals. As the active forces draw down their end-strength numbers, an increasing dependence on the Reserves ensues. However, as active forces become smaller, the flow of experienced personnel from active duty into the Reserves becomes smaller. The Reserves then must depend on NPS personnel, who have less experience than their prior service counterparts, and thus may potentially adversely impact Reserve readiness. The authors predict the prospective prior active service content of the Reserve components under differing active and Reserve force size circumstances. Additionally, the differences between prior service and NPS personnel and their importance relative to Reserve readiness are addressed.

The authors' analysis focuses on the mix of prior service and NPS personnel in the six Reserve Components and explains the wide variance among Components in the utilization of prior service. (For purposes of this thesis, only the Navy enlisted results

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[33] Tan recommends further research is needed as to why the results for these two components were positive to better understand how this occurred.

[34] David W. Grissmer, Sheila Nataraj Kirby, Richard Buddin, Jennifer Kawata, Jerry Sollinger, and Stephanie Williamson, "Prior Service Personnel: A Potential Constraint on Increasing Reliance on Reserve Forces," RAND, 1997.

will be discussed.) A model predicting active force losses, accessions, and inventories is developed, using FY 1993-1997 data to reflect the active force drawdown and FY 1987-1989 data to reflect continuation rates for those unaffected by the reduction in force. The authors make several assumptions when building the model: that prior active accessions are "first-choice" accessions – that they are preferred over NPS accessions or Reserve prior service accessions, and NPS personnel are recruited into the Reserves only when the prior service accession supply is depleted; downsizing would end in FY 1997; and that some downsizing is done through natural occurrences such as retirements, and voluntary separation programs.

The results of the study show that a scenario where the Reserve Force size is large and there is a low propensity to enlist in the Naval Reserve produces a decrease in the prior service accessions percentage. The Naval Reserve has the largest active/Reserve ratios of all Reserve Components, so a smaller proportion of NAVETs can be utilized. Additionally, the Naval Reserve's billet structure requires almost one-third of its positions to be filled by junior personnel; these positions are normally filled by NPS recruits. This, coupled with the fact that the active Navy will suffer fewer cuts than the other active components, will leave the Naval Reserve less vulnerable than other Reserve Components in the recruitment of prior-service personnel. Lastly, since the Naval Reserve takes in the second-highest proportion of active veterans, it is already at or near its supply constraint. Therefore, the Reserve Force could absorb some of the effects of downsizing without decreasing its prior service numbers.

G. IMPLICATIONS OF PRIOR STUDIES ON CURRENT RESEARCH

There have been many studies on the Reserve Components and the differing effects that occur from accessing NPS and prior-service personnel. The decline in availability of prior-service individuals for service in the Reserves and the resulting increase in NPS accessions is a common problem among all Reserve Components. Increases in pay and compensation packages are shown to have a positive effect on whether or not individuals affiliate with the Reserves. The studies imply that a policy that would mitigate the readiness impacts of accessing large numbers of NPS recruits and having them serve on an extended period of active duty to receive the necessary training

would be to increase pay. Using pay and bonus incentives could offset the negative affects of the proposed training policies for NPS personnel. These incentives would enhance the palatability of longer active duty periods and mitigate potential negative constraints of family and civilian job pressures.[35]

[35] David W. Grissmer, Sheila Nataraj Kirby, Richard Buddin, Jennifer Kawata, Jerry Sollinger, and Stephanie Williamson, "Prior Service Personnel: A Potential Constraint on Increasing Reliance on Reserve Forces," RAND, 1997. Also see, Hong W. Tan, "Non-Prior Service Reserve Enlistments: Supply Estimates and Forecasts," RAND, 1991, and M. Susan Marquis and Sheila Nataraj Kirby, "Reserve Accessions Among Individuals with Prior Military Service: Supply and Skill Match," RAND, October 1989.

IV. METHODS OF ANALYSIS

A. DATA

The data used in this analysis is derived from a web-based survey designed by the author. The survey was posted on the Reserve Forces Command web page and disseminated to the 8,530 NPS individuals currently serving in the Reserves. It was restricted by social security number so only NPS individuals could complete the survey and each individual could only complete it one time. The survey consists of 15 questions, 11 of which are demographic. A copy of the survey can be found in Appendix A.

The demographic questions identify each individual's age, gender, marital status, education level, annual income, number of children, current paygrade, time in service, and whether or not they had attended the 17-day basic training program currently in place. The four remaining questions deal directly with the two proposed training policy alternatives. Specifically, each NPS individual is asked whether they would join the Reserves if there were a 28-day active duty obligation that commenced immediately upon joining; if there were a 28-day active duty obligation that allowed for up to 12 months in the DEP; if there were a 77-day active duty obligation that commenced immediately upon joining; or if there were a 77-day active duty obligation that allowed for up to 12 months in the DEP. For clarity, a comprehensive definition and description of the DEP was provided within the survey. There were four choices for each of these four questions: "Extremely likely," "likely," "not very likely," and "no chance." The survey was available on-line for six weeks to allow coverage of at least one drill weekend for each Reserve Center. At survey completion, 28 percent of the 8,530 NPS individuals surveyed had responded, resulting in a sample size of 2,366.

The intent of the survey was to examine an individuals' likelihood of enlisting in the Naval Reserve if either the two 28-day training alternatives or the two 77-day training alternatives were implemented. It is worth noting that the individuals who responded to the survey are already serving in the Naval Reserve under the current 17-day training program. As such, when referring to an individual's or group of individual's "propensity

to enlist," or "likelihood to enlist," the author is referring to a hypothetical situation concerning the survey respondents' inclination to enlist under the proposed training alternatives.

B. PRELIMINARY ANALYSIS

1. Methodology

Upon completion of the survey, the responses (in Excel format) were imported into the SAS software program. SAS is a full-featured data management, analysis, and presentation product; it can perform a variety of data analysis and presentation tasks, consisting of statistical analyses and graphical presentation of data.[36] This allowed for the creation of categorical dummy variables (variables that take on the value of either zero or one); filtering out of any questions left blank by respondents; and the calculation of the chi-square statistic. When using survey data, chi-square is the most common analysis used. It is suitable when the data consists of frequency counts in distinct, mutually exclusive, and comprehensive categories. That is, it should be possible to count how many individuals fall into which category with every individual falling in some category and no one falling in more than one category.[37] For the survey responses, the frequencies are outlined by subcategory of each question in the survey. It is used for testing hypotheses concerning relationships between categorical variables – in this case, between each subcategory of the demographic questions in the survey (explanatory variables) and the four questions dealing with the two proposed alternative training policies (dependent variables).[38]

2. Descriptive Statistics of Survey Respondents

Table 2 provides the number and percentages by category of the survey respondents. Each category is further subdivided to show specific categories of interest. For example, 60 percent of survey respondents are Caucasian males, more than four times as many as any other group. Two-thirds of respondents are male. Three out of four respondents (74%) are over the age of 27. Almost half of those surveyed are married and

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[36] http://www.utexas.edu/cc/stat/software/sas/. Accessed May 2004.

[37] http://www.nku.edu/mcdaniel/tools/chihowto.html. Accessed May 2004.

[38] http://www.georgetown.edu/faculty/ballc/webtools/web_chi_tut.html. Accessed May 2004.

have no children. 38 percent have taken some college-level courses but have not received a college degree. Almost 50 percent have an annual income of $35,000 or less. Of those surveyed, 47 percent are E-3s, and more than one-fourth have at least one year, but fewer than two years, of service in the Naval Reserve. This time in service corresponds with the fact that 73 percent of respondents have attended NRAC in Great Lakes as this training is typically completed within the first year of enlisting. More than 70 percent of respondents indicate that they would likely still affiliate with the Naval Reserve if the active duty training requirement were 28 days in length, whether the DEP option is available or not. However, if the active duty training requirement were 77 days in length, only 28 percent say they would affiliate if no DEP option were offered, and 43 percent say they would if the DEP option were available.

Table 2. NPS Personnel Survey Respondents Broken Down by Category

Variable	Number	Percentage
Age		
18-22	149	6.32
23-26	465	19.74
27-34	871	36.97
35 and over	871	36.97
Gender		
Male	1564	66.44
Female	790	33.56
Race		
Asian/Pacific Islander/Other	300	12.74
Black	289	12.28
Caucasian	1404	59.67
Hispanic	360	15.30
Marital Status		
Divorced	307	13.07
Married	1153	49.08
Never been married	820	34.91
Separated	69	2.94
Number of Children		
None	976	41.64
One	396	16.89
Two	526	22.44
Three	257	10.96
Four or more	189	8.06
Education		
GED	136	5.80
High School Diploma	251	10.71
Some College	897	38.28
Associates Degree	341	14.55
Bachelors Degree	518	22.11

Variable	Number	Percentage
Masters Degree	164	7.00
PhD	36	1.54
Income		
Less than 25K	696	29.67
$25K-$34,999K	593	25.28
$35K-$44,999K	411	17.52
$45K-$54,999K	244	10.40
$55K-$64,999K	160	6.82
$65K and over	242	10.32
Pay Grade		
E3	1088	47.30
E4	738	32.09
E5	372	16.17
E6	92	4.00
Length of Service		
2 to 3 Months	273	11.61
4 to 6 Months	304	12.93
6 to 9 Months	344	14.63
9 to 12 Months	345	14.67
More than 12 Months	628	26.71
More than 24 Months	441	18.76
Attended NRAC		
Yes	1713	73.27
28 Day No DEP Option		
Extremely likely/Likely	1696	72.14
Not likely/No chance	655	27.86
28 Day With DEP Option		
Extremely likely/Likely	1642	70.56
Not likely/No chance	685	29.44
77 Day No DEP Option		
Extremely likely/Likely	1006	27.86
Not likely/No chance	1696	72.14
77 Day DEP Option		
Extremely likely/Likely	1001	43.02
Not likely/No chance	1326	56.98

3. Descriptive Statistics of Survey Respondents as Compared to the Four Training Policy Alternatives

Table 3 shows the percentage in each demographic category "likely to affiliate" with the Naval Reserve under each alternative. Recall that respondents are classified as "likely to affiliate" if they chose either "Extremely likely" or "likely" as their response to the questions on the survey.

a. 28-Day Alternative Training Policy (No DEP)

The majority of respondents, regardless of age, indicate a likelihood that they would affiliate with the Naval Reserve. However, the propensity to enlist and respondents' age have an inverse relationship - the older the individual, the less likely

he/she is to affiliate. For those age 27 and older, their propensity to enlist is more than 14 percentage points lower than those ages 18-22. This is noteworthy because the target population for recruiting NPS personnel has typically been those between the ages of 27 and 36, which represents the ages of the majority NPS personnel currently serving.

Gender makes no difference in the decision to affiliate under this proposal. Both male and female respondents show a high propensity to enlist under this proposal, at 72 percent. However, ethnicity does seem to have an effect on the decision to enlist. Although the vast majority indicates a likeliness to enlist under this program, Caucasians, who represent the majority of the sample, reflect a propensity to enlist that is more than 5 percentage points lower than Blacks, and 3 percentage points lower than Hispanics.[39]

Marital status also has an effect on propensity to join. Across all subcategories, respondents indicate a high likelihood to join; however, those who are married show a likelihood to enlist that is more than 11 percentage points lower than those who have never been married. This is significant as the majority of those NPS currently recruited into the Naval Reserve are married.

The number of children and the propensity to enlist under this alternative also share an inverse relationship. Those with no children have the highest positive propensity, and propensity decreases with each additional child. Those with no children represent the majority of those surveyed, and show a likelihood to join that is 3 percentage points higher than those with two children, who represent the next highest proportion of those surveyed.

Education is inversely proportional to the propensity to enlist under this program: the higher education level of the individual, the less likely they are to join. Those with a high school level education or with some college courses show a likelihood that is 6 percentage points higher than those with a two-year degree and 9 percentage

[39] The "Other" category, although reflects the highest percentage of those likely to enlist under the 28-day NO DEP option, represent only 3 percent of the sample and thus is not considered to be significant.

points higher than those with a four-year degree. Those with some college courses represent the biggest proportion of those surveyed, and fit the current demographics of those recruited into the NPS program.

The majority of those surveyed have an annual income between $25,000 and $35,000 and these individuals reflect the highest propensity to join under this program. The likelihood to join declines sharply when an individual's annual income reaches $45,000 and higher. These individuals show a likelihood to enlist that is 13 percentage points lower than those in the lower income brackets.

The majority of NPS are pay grade E-3 and these individuals show the highest propensity to enlist under this program. They show a likelihood that is more than 7 percentage points higher than those in pay grades E-4 or E-5. It is worth noting that the majority of NPS personnel accessed into the Reserves enter at pay grade E-3 or higher as they are given credit for their civilian education and experience.

Most individuals surveyed indicated they would likely enlist under this alternative, regardless of time in the Reserves. However, those with six months or fewer have a propensity that is five percentage points higher than those with more than six months service time, with the exception of those with service time between 9 and 12 months. Those with service time between 9 and 12 months have an enlistment propensity that is than 10 percentage points lower than those in other categories. This could be explained by the fact that at this point in their training, the majority of NPS individuals are preparing to leave for NRAC training at Great Lakes, and are apprehensive about what to expect. This is supported by the fact that the likelihood increases for those with more than 12 months of service by 9 percentage points.

Individuals who have already attended NRAC represent the majority of those surveyed and reflect an extremely high propensity to enlist under this program, at 72 percent. This is important because it suggests that the experience these individuals had during NRAC was a positive one as they would still be willing to attend if the active duty training period was extended.

b. 28-Day Alternative Training Policy (With DEP)

Across all categories, the likelihood of enlisting under this alternative is lower than in the option when DEP was not available. However, there are notable differences in several categories and these are discussed below.

Those age 27 and over are still less likely to enlist than those who are younger, but those ages 18 to 22 show a decline in propensity to enlist that is 7 percentage points lower as compared to the no DEP option. This could be attributed to the fact that these individuals have recently finished high school, are enrolled in college, and have not established a career. They may not be willing to enlist if they have to wait up to 12 months to begin receiving pay. Earlier studies have shown that pay is a strong incentive for those coming out of high school and affiliating with any component of the military.

With regards to ethnicity, all categories with the exception of those who are Caucasian indicated a lower propensity to enlist under the DEP option. However, Caucasians showed that there is a 2-percentage point higher propensity than the former alternative. This seems to suggest the fact that those in the higher annual income categories are more inclined to enlist if DEP is an option, reflecting a 5-percentage point difference over the no DEP option. The flexibility that DEP offers may be more palatable to career-minded individuals as they would have time to arrange for work absences. Additionally, since these individuals tend to fill jobs that are more career-oriented, many employers offer some sort of pay even when their employee is serving a Reserve obligation. Conversely, those in minority ethnic categories may not be willing to enlist under the DEP as these individuals typically come from lower socio-economic circumstances and cannot afford to delay enlisting and thus delay being placed in a pay status.

c. 77-Day Alternative Training Policy (No DEP)

This training alternative shows sharp declines across all categories with regards to propensity to enlist in the Naval Reserve. Even for those with the highest propensity to enlist in each category, they still have a propensity of 50 percent or less. This could be explained by the fact that almost all Reservists are either in school full-time

or have a career. In either case, they may be unwilling or unable to leave their civilian responsibilities for such a long time period. Those with the most notable changes are discussed below.

Those individuals age 27 and older show a 13-percentage point lower propensity to enlist under this alternative than those ages 18 to 22, and more than a 30-percentage point lower propensity than they showed in both 28-day alternatives. Additionally, although those ages 18 to 22 show the highest propensity to enlist under this program, these individuals show a 25 percentage point lower propensity for this option as compared to the 28-day DEP alternative and a 30 percentage point lower propensity as compared to the 28-day no DEP option. This indicates that the older the individual the less likely they are to enlist under this alternative, and that the 28-day alternative is more palatable to both groups.

A decline in likelihood to enlist is evident across all ethnic groups. However, the sharpest declines are for Caucasians, who are more than 30 percentage points less likely to enlist they are for either 28-day option, and for Hispanics, who are more than 35 percentage points less likely to enlist than they are under the 28-day no DEP option. This again may be contributed to differing socio-economic circumstances amongst ethnic groups.

Across education subcategories, there are large declines in likelihood to join. The largest decreases are evident for individuals with some college, who are more than 30 percentage points less likely to enlist than those with a four-year degree when compared to the likelihood for both 28-day options.

d. 77-Day Alternative Training Policy (With DEP)

This alternative also reveals a much lower likelihood to enlist than both of the 28-day options, and also tends to show a lower likelihood than the 77-Day no DEP option, especially for those who are younger, single, have less education and income, and are a member of a minority group. This is not surprising since the same differences are seen between the two 28-day options. However, the majority of those in the highest subcategories represent 50 percent or less of the total number. This indicates that the 77-day DEP option is the least attractive of the four options, with the possible exception for

those who are older, more educated, and in higher income brackets. More flexibility in reporting for active duty is more attractive to those who find it more difficult to leave their civilian jobs.

What is common amongst all these categories is that the younger, less educated and less experienced individuals are more likely to enlist under these four training options. However, these individuals do not reflect the demographic makeup of those currently in the NPS program.

Table 3. Percentage Likely to Affiliate with the Naval Reserve by Policy Option and Demographic Characteristic

Variables	28-Day No DEP	28-Day With DEP	77-Day No DEP	77-Day With DEP
Age				
18-22	85.91	79.45	53.74	52.82
23-26	73.49	73.80	47.41	47.26
27-34	71.17	69.65	39.91	42.07
35 and over	69.96	68.29	41.47	40.16
Gender				
Male	72.10	70.74	42.84	43.19
Female	72.08	70.19	42.95	42.89
Race[a]				
Asian/Pacific	68.98	63.25	47.22	43.46
Islander	75.35	69.65	52.25	49.11
Black	71.36	73.21	40.36	41.55
Caucasian	73.61	65.91	41.46	42.42
Hispanic				
Marital Status[b]				
Divorced	75.24	72.43	49.52	49.67
Married	66.58	66.87	36.71	37.95
Never been married	78.24	74.26	48.17	47.27
Number of Children				
None	75.85	73.23	45.99	46.10
One	72.98	73.84	37.47	35.73
Two	68.95	66.54	42.94	45.04
Three	69.93	70.92	41.41	42.06
Four or more	63.63	61.08	21.04	37.30
Education[c]				
GED	90.44	81.95	62.50	57.14
High School	75.71	71.38	46.61	45.34
Diploma	76.42	74.97	48.32	49.60
Some College	72.40	69.03	39.95	40.71
Associates Degree	67.57	66.41	36.87	36.04
Bachelors Degree	53.38	64.19	20.37	24.69
Masters Degree				
Income				
Less than 25K	76.98	73.58	52.45	51.54

Variables	28-Day No DEP	28-Day With DEP	77-Day No DEP	77-Day With DEP
$25K-$34,999K	76.14	73.59	46.19	45.83
$35K-$44,999K	76.52	73.89	41.08	41.62
$45K-$54,999K	63.94	68.05	33.20	35.27
$55K-$64,999K	61.88	59.87	34.38	32.48
$65K and over	56.02	59.00	26.14	29.58
PayGrade[d]				
E3	77.35	73.07	48.53	48.61
E4	69.29	72.92	41.03	40.72
E5	68.65	70.30	30.81	32.43
E6	48.91	49.45	32.61	34.06
Length of Service[e]				
2 to 3 Months	75.37	72.43	48.16	47.04
4 to 6 Months	77.31	75.08	50.00	48.15
6 to 9 Months	72.10	73.53	44.02	47.37
9 to 12 Months	64.93	67.06	37.68	38.77
More than 12 Months	72.73	69.62	40.03	40.06
More than 24 Months	71.17	68.28	40.96	41.15
Attended NRAC				
Yes	72.18	69.73	41.78	41.77

a Those represented as "other" are excluded as they represent less than three percent of those surveyed

b Those represented as "separated" are excluded as they represent less than three percent of those surveyed

c Those with Doctoral Degrees are excluded as they represent less than two percent of those surveyed

d Those in paygrades E1 and E2 are excluded as, combined, they represent less than one percent of those surveyed

e Those with less than one month of service time are excluded as they represent less than one percent of those surveyed

C. MODEL SPECIFICATIONS

Table 4 defines the variables used in each regression model. Four different dependent variables are used in four separate models to provide reliable estimates of the effect of each explanatory variable on the positive propensity to enlist under each of the four alternative training policies. The sample data set includes all respondents to the survey.

1. Models of the Four Proposed Alternative Training Policies

Multivariate logistic regression models are used to estimate the probability of enlisting in the Naval Reserves under one of the four alternative training policies. The specification of each of the four models involves regressing the positive propensity for each of the four program options on the same set of explanatory variables. The basic model specification is as follows:

$$\text{POSITIVE}(j) = \beta_0 + \beta_1 \text{FEMALE} + \beta_2 \text{AGE23TO26} + \beta_3 \text{AGE27OVR} + \beta_4 \text{SINGLE}$$
$$+\beta_5 \text{DIVORCED} + \beta_6 \text{GED} + \beta_7 \text{SMCOL} + \beta_8 \text{COLDEG}$$
$$+\beta_9 \text{AT25T044} + \beta_{10} \text{OVER45} + \beta_{11} \text{API} + \beta_{12} \text{BLACK} + \beta_{13} \text{HISP};$$

where POSITIVE (j) equals POS28IMMED; POS28DEP; POS77IMMED; and POS77DEP.

The Log-Likelihood Ratio Test (LLR) is used to determine joint significance of all estimated coefficients; the LLR tests whether a group of independent variables have an effect on the dependent variable. It is a measure of joint significance for the entire logit model, which is estimated via maximum likelihood procedures. It restricts the estimated regression equation so that the estimated coefficients are equal to zero. It then compares the overall fit of the model for both the restricted equation and the unrestricted equation to establish if including the independent variables produces a better fit to the model.[40] All four of the estimated logit models listed above were tested for joint significance. The p-value for the LLR test is included in each table of results below. The explanatory variables used in the models all prove to be significant in explaining the dependent variables.

Those characteristics that represent the majority of observations in each category form the base case for each explanatory variable. The base case for each category is: gender (MALE), age (AGE18TO22), marital status (MARRIED), educ (HSDIP), income (LESS25), and race (CAUC). The same base cases are used for all four regression models. The marginal effect of each explanatory variable is calculated by comparing the probability of enlisting for the base case with the probability of enlisting when each explanatory variable is increased by one unit with all other variables held constant. Since all explanatory variables are binary, the unit increase is from zero to one.

[40] Jeffrey M. Wooldridge "Introductory Econometrics: A Modern Approach, 2e," Ohio, 2003, pp. 144, 558-559.

Table 4. Explanation of Variables Names and Definitions

DEPENDENT VARIABLE NAMES	VARIABLES DEFINED
POS28IMMED	=1 if likely to enlist under 28-day alternative training policy/no DEP option
POS28DEP	=1 if likely to enlist under 28-day alternative training policy/DEP option
POS77IMMED	=1 if likely to enlist under 77-day alternative training policy/no DEP option
POS77DEP	=1 if likely to enlist under 77-day alternative training policy/DEP option
EXPLANATORY VARIABLE NAMES	
AGE18TO22	=1 if respondents between ages 18 and 22
AGE23TO26	=1 if respondents between ages of 23 and 26
AGE27OVR	=1 if respondents ages 27 and over
API	=1 if respondents are Asian Pacific Islander
AT25TO44	=1 if respondents annual income is between $25,000 and $44,999
ATTNRAC	=1 if respondents have attended the Naval Reserve Accession Course (NRAC) 17-day active duty training in Great Lakes
BLACK	=1 if respondents are Black
CAUC	=1 if respondents are Caucasian
COLDEG	=1 if respondents have Associates Degree or higher
DIVORCED	=1 if respondents are divorced
FEMALE	=1 if respondents are female
GED	=1 if respondents have earned a General Equivalency Diploma in lieu of a High School Diploma
HISP	=1 if respondents are Hispanic
HSDIP	=1 if respondents have earned a High School Diploma
LESS25	=1 if respondents annual income less than $25,000
MALE	=1 if respondents are male
MARRIED	=1 if respondents are married
OVER45	=1 if respondents annual income is $45,000 or higher
SINGLE	=1 if respondents never married
SMCOL	=1 if respondents have taken college-level courses but do not have a college degree

V. MULTIVARIATE REGRESSION RESULTS

All four regression models have coefficients that are significant at either the 1, 5 or 10 percent significance level. The results for each of the four regression models are discussed in detail below.

A. 28-DAY NO DEP MODEL RESULTS

1. Maximum Likelihood Estimates

Table 5 provides the complete logistic regression results for the 28-day no DEP option. Most of the coefficients in this model are significant. Although the R^2 of this model does not reflect a strong goodness of fit, the LLR for joint significance was performed and all independent variables were found to be significant indicating that they should be included in the model (p= .0001).

Examining the estimates, several results become apparent. As the education level of an individual increases, the likelihood of that individual enlisting under this option decreases. Similarly, those who are single or divorced have higher propensities to enlist under this option, as compared to married individuals.

Table 5. Logistic Regression Results for 28-Day No DEP Model

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr>ChiSq
Intercept	1	1.2928	0.2960	19.0745	<.0001
FEMALE	1	-0.1884*	0.1065	3.1277	0.0770
AGE23TO26	1	-0.5104**	0.2650	3.7105	0.0541
AGE27OVR	1	0.2809	0.2629	1.1414	0.2854
SINGLE	1	0.5391***	0.1215	19.6915	<.0001
DIVORCED	1	0.3642***	0.1424	6.5425	0.0105
GED	1	1.1224***	0.3303	11.5484	0.0007
SMCOL	1	0.0428	0.1701	0.0833	0.7729
COLDEG	1	-0.3784**	0.1672	5.1197	0.0237
AT25TO44	1	0.1319	0.1276	1.0686	0.3013
OVER45	1	-0.4869***	0.1414	11.8579	0.0006
API	1	0.0138	0.1468	0.0088	0.9251
BLACK	1	0.1183	0.1550	0.5830	0.4451
HISP	1	0.00610	0.1390	0.0019	0.9650
	N=2,315 R^2=0.0537 Max-Rescaled R^2=0.0774		Likelihood Ratio=127.7738 P=<.0001		

***=Significant at .01; **=Significant at .05; *=Significant at .10

2. Marginal Effects

Table 6 provides the marginal effects for the coefficients from the 28-day no DEP model in Table 5. The marginal effect of each independent variable is determined by comparing the probability of enlisting for the base case with the probability of enlisting when each explanatory variable is increased by one unit, or from zero to one, all other variables held constant. To get the percentage increase or decrease, the partial effect of each variable is multiplied by 100. Those characteristics that signify a sizeable percentage of observations in each category form the base case. The base case categories are: MALE, AGE18TO22, MARRIED, HSDIP, LESS25, and CAUC.

The results in Table 6 show that females are 3.35 percentage points less likely to enlist than males under this option. This result is somewhat surprising. In a 1990 RAND study, Hosek and Peterson[41] found that when examining the individual enlistment decisions of young men and women, most variables were statistically equivalent for both males and females. Although this study primarily dealt with active duty, is can be assumed that the same could be applied to the Reserves.

The marginal effect for age shows a 9.84 percentage point lower enlistment propensity for individuals ages 23 to 26, as compared to those ages 18 to 22. These results are not surprising as those ages 23 to 26 may be pursuing education or have launched a career plan they are loathe to interrupt. What is surprising, however, is the fact that enlistment propensity for those ages 27 and over is no different from 18 to 22 year olds. Practically speaking, the individuals ages 27 and over would be less likely to commit to an immediate 28 days of active service because the majority of individuals in this age group have already invested time in a career, have family responsibilities, and may find it difficult to take this much time away. In a 1989 RAND study, Grissmer, Buddin, and Kirby[42] found that more senior enlisted personnel have more responsibilities and time demands from their civilian jobs as well as their Reserve job and have a more difficult time taking time away from their civilian job to meet Reserve commitments. So,

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41 J. Hosek and C. Peterson, "Serving Her Country: An Analysis of Women's Enlistments," RAND, 1990.

42 David W. Grissmer, Richard Buddin, and Sheila N. Kirby, "Improving Reserve Compensation: A Review of Current Compensation and Related Personnel and Training Issues," RAND, September 1989.

this result could be attributed to the fact that the majority of the survey respondents fall into age category 27 and over, and are currently serving in the Reserves. Assuming their Reserve experience is positive, 28 days may not seem much more to these individuals than the current 17-day commitment, especially since many of these individuals have already attended NRAC and know what to expect.

The marginal effect of marital status in Table 6 shows that single individuals have a 7.74 percentage point higher propensity to enlist under this option than those who are married, and divorced individuals have a 5.52 percentage point higher propensity. This can be attributed to the fact that single individuals do not have the family responsibilities of their married counterparts, and thus have the flexibility to attend a 28-day active duty period almost immediately after enlisting. Although those who are divorced show a lower propensity than those who are single, this can be attributed to the fact that these individuals may still have family responsibilities; however, they have more flexibility than those still married, and thus are more amenable to this option. This is supported by the 1989 RAND study conducted by Grissmer *et al*.[43] who found that 25 percent of enlisted Reserve personnel encounter family problems with the required annual active duty training time and with any extra time spent on Reserve issues. Between 10 and 24 percent face unfavorable spouse attitudes. This is especially prevalent for E-3s who are married.

Education has an affect on propensity for those on the either end of the education spectrum. The marginal effects show that, compared to individuals with a high school diploma, those with a GED have a 13.34 percentage point higher likelihood to enlist, but those who have at least a two-year degree have a 7.07 percentage point lower propensity to enlist under this option. These results are not surprising as those with more education are more likely to have higher paying jobs or have established careers and are not as willing or able to serve an immediate 28 days of active duty time. This is reinforced by the finding that those with an annual income above $45,000 per year have a 9.34 percentage point lower propensity to enlist under this option than those making less than

[43] Ibid.

$25,000 per year. These results are supported by the 1989 RAND study by Grissmer, Buddin, and Kirby[44] who found that 47 percent of enlisted Reserve personnel lose overtime opportunities and pay as a result of Reserve service obligations.

Table 6. Marginal Effects for Likelihood to Enlist: 28-Day No DEP

VARIABLES	MARGINAL EFFECTS
FEMALE	-0.03354*
MALE	Base case
AGE23TO26	-0.09842**
AGE27OVR	-0.05123
AGE18TO22	Base case
SINGLE	0.05522***
DIVORCED	0.07736***
MARRIED	Base case
GED	0.13336***
SMCOL	0.00818
COLDEG	-0.07071**
HSDIP	Base case
AT25TO44	0.02145
OVER45	-0.09340***
LESS 25	Base case
API	0.00232
BLACK	0.01932
HISP	0.00103
CAUC	Base Case

***=Significant at .01
**=Significant at .05
*=Significant at .10

B. 28-DAY WITH DEP MODEL RESULTS

1. Maximum Likelihood Estimates

Table 7 provides the complete logistic regression results for the 28-day with DEP model. When comparing this model to the previous one, there are definite distinctions. Several of the explanatory variables are insignificant such as gender and age. Another noted difference is that of ethnicity, especially for Hispanics, has a significant effect. All ethnic categories show a lower propensity to enlist under this option than the base case.

[44] Grissmer, *et al*., RAND, September 1989.

Table 7. Logistic Regression Results for 28-Day With DEP Model

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr>ChiSq
Intercept	1	1.0670	0.2678	15.8697	<.0001
FEMALE	1	-0.1084	0.1039	1.0882	0.2969
AGE23TO26	1	-0.1175	0.2369	0.2458	0.6201
AGE27OVR	1	-0.1667	0.2332	0.5109	0.4747
SINGLE	1	0.3084***	0.1172	6.9234	0.0085
DIVORCED	1	0.2964**	0.1401	4.4767	0.0344
GED	1	0.5990**	0.2689	4.9624	0.0259
SMCOL	1	0.2212	0.1631	1.8387	0.1751
COLDEG	1	-0.1468	0.1607	0.8351	0.3608
AT25TO44	1	0.1264	0.1229	1.0574	0.3038
OVER45	1	-0.3151**	0.1393	5.1193	0.0237
API	1	-0.4151***	0.1399	8.8043	0.0030
BLACK	1	-0.2458*	0.1483	2.7465	0.0975
HISP	1	-0.4415***	0.1312	11.3213	0.0008
	N=2,291 R^2=0.0317 Max-Rescaled R^2=0.0452		Likelihood Ratio=73.8897 P=<.0001		

***=Significant at .01
**=Significant at .05
*=Significant at .10

2. Marginal Effects

Table 8 provides the marginal effects for the 28-day with DEP model. Under this option, although females show a slightly lower likelihood to enlist, the estimated coefficient is Table 7 is not significant. This may indicate that when given the choice of enrolling in the DEP, more females are likely to enlist than when the DEP option is not available. This could be attributed to the fact that females in the Reserves are less likely than males to be married[45] and thus may have more flexibility in their schedules and be more are able to accommodate 28 days of active service without advance notice.

Similarly to the 28-day no DEP model, the marginal effects of marital status show that single individuals have a higher propensity to enlist than married individuals (base case). A difference in the results for this option, however is the likelihood for single individuals has declined from the first model from 7.74 percentage points to 5.42 percentage points. This indicates that although still willing to enlist under this option, the 28-day no DEP option is more desirable. For divorced individuals, there is a very slight

[45] Department of Defense Population Representation in the Military Services, Office of the Assistant Secretary of Defense for Personnel and Readiness, Fiscal Year 2001.

decrease of .29 percentage points in the propensity to enlist under this option versus the 28-day no DEP. This indicates that both options are equally desirable to divorced individuals.

The partial effects for education show only that those with a GED have a significant effect. However, the positive effect of GED declines from 13.34 to 9.70 percentage points. Conversely, individuals with a GED level of education make up only five percent of the Naval Reserve, with the majority of Reservists having at least some college education. All other education categories are significant.

The partial effects for income show a slight increase of 2.9 percentage points in likelihood to enlist under this option as compared to the 28-day no DEP option. Those whose annual income is $45,000 or more show a 6.44 percentage point lower likelihood to enlist under this option as compared to the base case. However, the potential loss of income and overtime is still an issue; what may have changed for a small percentage of these individuals is the increased flexibility of choosing when to serve the 28 days of active training time, making this option slightly more desirable.

Under this option, ethnic groups show a negative likelihood of enlisting as compared to the base case. Hispanics, who are underrepresented in the Selected Reserves relative to the civilian population, have a 9.26 percentage point lower propensity to enlist under this option as compared to Caucasians (base case). Blacks, who are over represented relative to the civilian population, reflect a negative propensity of 4.95 percentage points.[46] Asian/Pacific Islanders, who represent the smallest proportion at less than 10 percent, show a negative propensity of 8.66 percentage points when compared to the base case.

[46] Ibid.

Table 8. Marginal Effects for Likelihood to Enlist: 28-Day With DEP

VARIABLES	MARGINAL EFFECTS
FEMALE	-0.021181
MALE	Base case
AGE23TO26	-0.023007
AGE27OVR	-0.033022
AGE18TO22	Base Case
DIVORCED	0.052282**
SINGLE	0.054226***
MARRIED	Base case
GED	0.097019**
SMCOL	0.039807
COLDEG	-0.028955
HSDIP	Base case
AT25TO44	0.023321
OVER45	-0.064429**
LESS 25	Base case
API	-0.086592***
BLACK	-0.049529*
HISP	-0.092558***
CAUC	Base case

***=Significant at .01
**=Significant at .05
*=Significant at .10

C. 77-DAY NO DEP RESULTS

1. Maximum Likelihood Estimates

Table 9 presents the full logistic regression results for the 77-day no DEP model. The majority of coefficients in this model are significant at the one percent level. Although the R^2 of this model does not reflect a strong goodness of fit, the explanatory variables were all significant (p-value for LLR=.0001) indicating that they should be included in the model.

Some of the results in Table 9 are very similar to the results of the 28-day no DEP model in Table 5. Females are less likely to enlist under this option than males. Also, greater education tends to reduce the likelihood of enlisting. Similarly, as annual income increases, propensity to enlist under this option decreases. However, there are also some notable differences between the two no DEP options. For the 77-day no DEP option, marital status is still a factor, but the results are surprisingly different. Those who are

divorced show a higher propensity to enlist under this option than the 28-day no DEP option (when compared to those who are married). Additionally, while there is no statistical differences in ethnic categories as compared to the base case in the 28-day no DEP option, under this option there are significant differences between ethnic categories. In particular, Blacks and Asian/Pacific Islanders are both more likely to enlist than Caucasians.

Table 9. Logistic Regression Results for 77-Day No DEP Model

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr>ChiSq
Intercept	1	-0.1486	0.2308	0.4146	0.5197
FEMALE	1	-0.1959**	0.0961	4.1539	0.0415
AGE23TO26	1	-0.0170	0.1979	0.0074	0.9315
AGE27OVR	1	0.0369	0.1962	0.0354	0.8507
SINGLE	1	0.3193***	0.1079	8.7508	0.0031
DIVORCED	1	0.4523***	0.1268	12.7255	0.0004
GED	1	0.5993***	0.2223	7.2682	0.0070
SMCOL	1	0.0600	0.1465	0.1677	0.6821
COLDEG	1	-0.4231***	0.1485	8.1154	0.0044
AT25TO44	1	-0.1959*	0.1092	3.2190	0.0728
OVER45	1	-0.6379***	0.1321	23.3219	<.0001
API	1	0.3329***	0.1340	6.1669	0.0130
BLACK	1	0.4300***	0.1352	10.1163	0.0015
HISP	1	-0.0227	0.1248	0.0331	0.8557
	N=2,312 R^2=0.0572 Max-Rescaled R^2=0.0768		Likelihood Ratio=136.2659 P=<.0001		

***=Significant at .01
**=Significant at .05
*=Significant at .10

2. Marginal Effects

The marginal effects in Table 10 show that there is a 4.82 percentage point lower propensity to enlist for females. These results reflect the same negative propensity as the 28-day no DEP option; however, under the 77-day no DEP option, females have an even lower likelihood of enlisting.

Both single and divorced individuals, are more likely to enlist than married individuals. However, a somewhat surprising result is that those who are divorced show a much higher propensity than those who are single, at 11.24 percentage points and 7.97 percentage points, respectively. This differs from both the 28-day immediate and 28-day

DEP options where those who are single are more likely to enlist. However, in a 1989 RAND study, Grissmer *et al*. found that those who are divorced participate in the Reserves for primarily economic reasons of meeting household expenses and paying off debts.[47] This could help explain the higher enlistment propensity amongst those who are divorced.

The marginal effects for this model show that individuals with a GED are 14.79 percentage points more likely to enlist than high school graduates. Conversely, those with at least a two-year college degree are 10.21 percentage points less likely to enlist. These results are not surprising as those with only a GED level of education are more likely to be younger, less likely to have an established career, and more likely to be single than those with some college education. However, it is important to note that at least 91 percent of the Reserve Force has at least a high school level of education,[48] and GED holders reflect a small proportion of the population.

The enlistment probabilities for both those who make between $25,000 and $44,999 and those who make more than $45,000 annually are lower than those who make less than $25,000 per year (base case): as income increases, propensity decreases. Individuals in the middle income group have a 4.82 percentage point lower propensity and those in the high income group have a 15-percentage point lower propensity. The results for those in the high income group are similar to those in the previous models with the only difference being that the size of the negative propensity is significantly greater under this option. Additionally, individuals in the middle income group have never differed significantly from the base case in either of the two previous options. The 1989 Grissmer *et al*. RAND study found that because of the probable lost pay and overtime opportunities, especially for lower-ranking enlisted personnel, and possible lost

[47] Grissmer, *et al.*, September 1989.

[48] Department of Defense Population Representation in the Military Services.

promotion opportunities, many individuals are reluctant to commit to more than the one weekend a month.[49] This could explain why under this option, both mid-range and high-range income categories reflected a negative propensity to enlist.

The marginal effects show that there is a 10.70 percentage point lower likelihood of enlistment for Blacks and an 8.30 percentage point lower likelihood of enlistment for Asian/Pacific Islanders. This is interesting as neither group were significantly different from Caucasians under the 28-day no DEP option, and both groups showed a negative propensity under the 28-day with DEP option.

Table 10. Marginal Effects for Likelihood to Enlist: 77-Day No DEP

VARIABLES	MARGINAL EFFECTS
FEMALE	-0.04820**
MALE	Base case
AGE23TO26	-0.00422
AGE27OVR	0.00920
AGE18TO22	Base case
DIVORCED	0.11244***
SINGLE	0.07966***
MARRIED	Base case
GED	0.14789***
SMCOL	0.01495
COLDEG	-0.10206***
HSDIP	Base Case
AT25TO44	-0.04820*
OVER45	-0.14999***
LESS 25	Base case
API	0.08302***
BLACK	0.10698***
HISP	-0.00563
CAUC	Base case
P(BASE CASE)	0.00000

***=Significant at .01
**=Significant at .05
*=Significant at .10

[49] Grissmer, *et al*., September, 1989.

D. 77-DAY WITH DEP RESULTS

1. Maximum Likelihood Estimates

Table 11 provides the complete logistic regression results for the 77-day with DEP model. Many of the coefficients in this model are significant and the LLR test (p=.0001) indicates joint significance of the independent variables.

Table 11. Logistic Regression Results for 77-Day With DEP Model

Parameter	DF	Estimate	Standard Error	Chi-Square	Pr>ChiSq
Intercept	1	-0.1355	0.2305	0.3456	0.5566
FEMALE	1	-0.1862**	0.0961	3.7497	0.0528
AGE23TO26	1	0.0114	0.1975	0.0033	0.9539
AGE27OVR	1	0.0329	0.1957	0.0282	0.8666
SINGLE	1	0.2442**	0.1077	5.1402	0.0234
DIVORCED	1	0.3451***	0.1266	7.4261	0.0064
GED	1	0.4078*	0.2204	3.4247	0.0642
SMCOL	1	0.1704	0.1469	1.3467	0.2459
COLDEG	1	-0.3446**	0.1485	5.3845	0.0203
AT25TO44	1	-0.1963*	0.1092	3.2294	0.0723
OVER45	1	-0.5847***	0.1316	19.7317	<.0001
API	1	0.1885	0.1340	1.9791	0.1595
BLACK	1	0.2355*	0.1360	2.9984	0.0833
HISP	1	-0.0330	0.1242	0.0708	0.7902
	N=2,291 R^2=0.0427 Max-Rescaled R^2=0.0573		Likelihood Ratio=100.0104 P=<.0001		

***=Significant at .01
**=Significant at .05
*=Significant at .10

The results under this option are similar to those for the 77-day no DEP option. Females are still less likely to enlist under this option than males, reflecting only a very slight difference in propensity than the previous option. Both single and divorced individuals are still more likely to enlist than those married; however, both groups have a slightly lower propensity than in the previous option.

GED holders still show a strong positive propensity to enlist under this option, but this propensity has decreased from the 77-day no DEP training option by 19.15 percentage points. This suggests that GED holders do not find the DEP option as

desirable as leaving for training immediately. Both individuals in the middle and high income groups reveal a strong negative propensity to enlist under this option; the effects are similar to those under the 77-day no DEP option.

Blacks have a 23.55 percentage point lower enlistment likelihood under this option than Caucasians. It is worth noting that although Blacks also showed a positive propensity for the 77-day no DEP option, under this option their propensity has declined by 19.45 percentage points, suggesting that the DEP is not desirable to this group.

2. Marginal Effects

Table 12 shows that females have a 4.59 percentage point lower propensity than males. This result is similar to those in previous models. Divorced and single respondents are similar to those results seen in the 77-day no DEP model and are 8.6 percentage points and 6.10 percentage points more likely to enlist than married individuals. However, the propensity to enlist is lower under this option; divorced individuals are 2.64 percentage points less likely to enlist under this option as compared to the 77-day no DEP option. However, divorced individuals have a higher propensity to enlist under this option than either the 28-day no DEP or the 28-day DEP option. For those who are single, there is a 1.87 percentage point lower propensity of enlistment for married individuals as compared to the 77-day no DEP option. Although there is nothing in the literature to explain these results, it could be that both groups are not willing or not able to wait to begin to receive pay, as they would have to under the DEP option.

GED holders show a 10.15 percentage point higher likelihood to enlist than high school graduates. Those with a college degree have an 8.38 percentage point lower likelihood to enlist under this option. However, the propensity is 1.83 percentage points lower for this option than for the 77-day no DEP option. This indicates a higher willingness to enlist if the DEP option is available and there is some flexibility of when they must attend the active duty training period.

The enlistment propensity is 4.84 percentage points and 13.88 percentage points lower for mid-range and high-range income groups, respectively. These effects are virtually the same as for the two 77-day options. This may indicate that both 77-day options are undesirable and the gain in active-duty pay and training is not enough to offset the loss of civilian earnings.

The only ethnic group that shows a significant marginal effect under this option is Blacks, who are 5.88 percentage points more likely to enlist. This is a 4.82 percentage point lower effect than the 77-day no DEP option, indicating that the DEP option may not be desirable to this group of individuals. Since Blacks are over-represented in the Reserves, this is noteworthy as it indicates that the DEP option is a deterrent for this particular group of individuals. This could be for purely economic reasons; however, there is nothing in the literature that explains this.

Table 12. Marginal Effects for Likelihood to Enlist: 77-Day With DEP

VARIABLES	MARGINAL EFFECTS
FEMALE	-0.04591**
MALE	Base case
AGE23TO26	0.00284
AGE27OVR	0.00819
AGE18TO22	Base case
DIVORCED	0.08602***
SINGLE	0.06097**
MARRIED	Base case
GED	0.10148*
SMCOL	0.04255
COLDEG	-0.08394**
HSDIP	Base case
AT25TO44	-0.04838*
OVER45	-0.13883***
LESS 25	Base case
API	0.04706
BLACK	0.05879*
HISP	-0.00821
CAUC	Base case
P(BASE CASE)	

***=Significant at .01
**=Significant at .05
*=Significant at .10

Appendix B provides a summary of the marginal effects of each variable for all four models discussed above.

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VI. COST EFFECTIVENESS ANALYSIS

There are several costs and benefits to these enlistment options for both the Reserves and the individuals serving in the Reserves. Many of these can be quantified to show advantages and disadvantages to both parties of each option. However, there are also forms of compensation and costs that are much more difficult to quantify. One of the most relevant costs is the cost to Reserve readiness; while NPS personnel are completing the 84-day training cycle, they cannot be mobilized or placed on active duty for any reason other than training. NPS personnel fill valid, funded Reserve billets that count against Fiscal Year end-strength numbers. Once NPS individuals have completed NRAC, they are transferred from the NPS unit to a Reserve unit that is funded by an active duty Resource Sponsor. NPS individuals, though, cannot deploy to the Reserve unit's active-duty gaining command until the 84-day training requirement is met. As such, NPS individuals impose readiness problems on both the Reserve unit and the gaining command.

Reserve members also receive benefits in forms of non-wage compensation that can be advantageous both to the member who receives them and to the Naval Reserve, which uses them as recruiting tools to attract potential applicants. However, costs are also incurred by these forms of compensation. These include but are not limited to the following: medical and dental benefits; veteran's benefits; commissary and exchange benefits; morale, welfare, and recreation benefits; and educational benefits.

This chapter examines both the monetary and non-monetary costs and benefits to both NPS personnel and the Reserves under the current program as well as for each proposed training alternative. Both non-recurring and annual recurring costs are estimated for changes that would be instituted in the Reserve non-prior service training program under each alternative. Data attained from the Reserve Forces Command budget office (COMNAVRESFOR N8), Navy Recruiting Command (CNRC), and Recruit Training Command (RTC) are used to estimate current costs, the potential cost of these changes, and the potential savings these policy changes may produce.

A. NON-WAGE COMPENSATION COSTS AND BENEFITS

There are several non-wage compensation costs that the Department of Defense (DoD) must incur in order to attract and retain active duty and Reserve personnel. These costs are incurred by offering non-wage compensation benefits to compete with the civilian sector and reward individuals for the unique demands of military service. While a detailed analysis of these costs is beyond the scope of this thesis, estimated active duty costs drawn from a 2004 Congressional Budget Office (CBO) report[50], and estimated Reserve costs drawn from a 2004 DoD report[51], will be examined to give the reader an idea of the estimated costs to DoD of compensating one individual in the Naval Reserve. The costs and benefits detailed below would apply for the current NPS training program and all alternatives discussed in this thesis.

1. Active Duty Non-Wage Compensation Costs

According to the CBO, 60 percent of the total active duty military compensation package is non-wage compensation. More than half consists of the accrued costs of retirement pensions, retirement health benefits, and veteran's benefits such as the GI Bill education program. The balance is made up of medical benefits, childcare, commissary and exchange benefits, and base housing, with medical benefits comprising the largest portion of costs at 29 percent of non-cash compensation costs, or an estimated $29,000 per active duty member.[52] Of this, 24 percent are the costs accrued by active duty members and their family members while 38 percent are the costs accrued for Veteran's health benefits (a Veteran is defined as anyone who has served honorably on active duty but separated from active service prior to retirement eligibility).[53]

The second largest non-wage compensation cost is attributed to installation-based compensation, comprising 12 percent of non-wage compensation costs, or an estimated $12,000 per active duty member. These installation-based forms of compensation are

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[50] Carla T. Murray, "Military Compensation: Balancing Cash and Noncash Benefits," Congressional Budget Office, January 2004, p. 1.

[51] Office of the Under Secretary of Defense for Personnel and Readiness, "Reserve Personnel Compensation Program Review," Department of Defense report to Congress, March 2004.

[52] All estimated costs for non-wage compensation are based on 2002 costing data, as cited by the CBO January 2004 report, p. 1.

[53] Murray, p. 3.

provided to include the quality of life for service members and include the costs of subsidized meals served at on-base galleys, on-base housing, military-provided childcare, and discounted goods and services provided by commissaries, exchanges, and MWR-run programs. The remaining non-cash compensation costs consist of retirement pay, veterans' benefits such as education benefits, and miscellaneous DoD benefits, at 9, 5, and 2 percent, respectively. Total non-cash compensation costs (based on 2002 cost data) per active duty member are $56,000.[54]

Although the non-wage costs to the DoD are high, these non-wage forms of compensation may be more cost-effective than increasing wages. It is believed they promote military readiness, increase quality of life, assist in recruiting and retention efforts, and provide a steady form of recompense that costs less than increasing cash compensation.[55]

2. Reserve Non-Wage Compensation Costs and Benefits

Under the Reserve personnel compensation program, Reservists are entitled to education benefits under the GI Bill similar to those of their active duty counterparts. Unlike active members who must pay into the program for the first 12 months of their enlistment, and do not have immediate access to these benefits, Reservists who agree to serve at least six years in the Selected Reserve are eligible for education benefits immediately upon completion of basic training and do not have to contribute any of their own money. However, the benefit level for Reserve members is only 28 percent of what active duty members receive under this program.[56] Therefore, based on CBO active duty cost data, the estimated cost per Reservist is $1,120.[57]

Retirement pay is also a cost to DoD, as monies are accrued to and paid out as Reservists become eligible for retirement benefits. Unlike their active duty counterparts who become retirement eligible upon completion of 20 years of service, Reservists must

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[54] Ibid., p. 2.

[55] Ibid., p. 4.

[56] Office of the Under Secretary of Defense for Personnel and Readiness, "Reserve Personnel Compensation Program Review," Department of Defense report to Congress, March 2004, p. 18.

[57] Cost data for Reserve non-wage compensation are estimated using CBO provided 2002 costing data and rough estimates rather than actual costs.

wait until age 60, regardless of when they have accumulated the required 20 years. For active duty members, the cost is estimated to be $8,000 per member;[58] it can only be assumed that this cost would be significantly lower per Reserve member since they retire at a much older age than the average active duty member who can typically retire in their forties. However, there is not enough information available in the literature to estimate what that lower estimated cost would be.

Reserve personnel are also entitled to medical benefits; however, compared to active duty, these benefits are extremely limited. While on IADT, Reservists are entitled to military medical care for any injury or illness that is incurred while in the line of duty during the drill period. For Reservists who are in an Active Duty for Training (ADT) status, medical benefits are the equivalent to active duty members if the period of ADT is greater than 30 days; in any period less than 30 days, Reservists are entitled to medical care only for injuries and illnesses incurred while in the line of duty during the active duty period. Reserve family members are not entitled to military medical care unless the individual is in a long-term active duty status such as mobilization. Military medical benefits are afforded to Reserve retirees, but only upon reaching age 60.[59] Although there is nothing specific in the literature addressing Reserve medical costs, it can be assumed that these costs are substantially lower than for active duty as active duty members and their families receive full medical benefits while the individual remains on active duty and upon retirement from active service.

The benefit hoped to be gained from offering Reservists non-wage compensation benefits similar to those of their active duty counterparts is to provide incentives for those enlisting in the Reserves, and to retain these individuals in a drilling status, supplying a source of trained and knowledgeable personnel from which to draw in times of national emergency.[60]

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[58] Murray, p. 2.

[59] Office of the Assistant Secretary of Defense Reserve Affairs, Pay, Benefits, and Entitlement Eligibility, September 2001, p. 3.

[60] Office of the Under Secretary of Defense for Personnel and Readiness, p. 43.

B. CURRENT 17-DAY BASIC TRAINING

Under the current training program, the Naval Reserve Activities (NRAs) are responsible for Phase I, Phase II, and Phase IV training of all NPS personnel. However, there are no authorized billets at the NRA's for full-time personnel assigned to conduct NPS training. Coordination and supervision of training is assigned as a collateral duty, normally to either a second or first class petty officer, or in some instances, a Chief Petty Officer. They are in charge of the NPS Reserve unit, which, on average, consists of 60 NPS personnel. These individuals must balance their full-time job responsibilities while maintaining a rigorous training schedule to prepare NPS personnel for the 17-day active duty training at Great Lakes (Phase III). Their tasks include class instruction, physical training, and administrative responsibilities such as seabag issue, upkeep of service records, and meeting medical and dental requirements. Several of the NRA full-time staff often conduct instruction on the various training subjects. Currently, the average total time for each NPS individual to complete the required 84 days of training is 27 months or 2.3 years.

1. Current Program Estimated Costs

The cost of recruiting one NPS individual into the Reserves is $5,470, which is lower than the $12,145 cost per recruit for the active Navy. This total results from recruiting processing costs incurred through payment of bonuses, the military pay for the recruiters, the civilian pay of recruiting support staff, advertising, and operations and maintenance of the recruiting program. These cost categories are outlined in Table 13.[61]

In FY-03, 5,071 NPS personnel were accessed into the Naval Reserves. Under the current training program, NPS personnel drill one weekend a month until they leave to attend active-duty training (AT) in Great Lakes. On average, they leave for Great Lakes seven months after they have enlisted, or 14 drill days. For FY-03, 3,583 NPS personnel completed NRAC training at Great Lakes.[62] This number will also be used to

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[61] Commander, Naval Recruiting Command Fiscal Year 2003, Department of Defense Cost Per Recruit as extracted from the Office of Secretary of Defense DD804 Reports and converted to FY-03 dollars by using inflation factors from the Programming and Budgeting Information System (PBIS).

[62] Recruit Training Command, NRAC Division, Navy Integrated Training Resources Administration System (NITRAS), May 2004.

estimate the number of NPS personnel who go on AT each Fiscal Year. The average NPS individual holds the rank of E-3; these individuals earn $46.90 of base pay per drill period, or $93.80 of base pay per drill day. There are four drill periods in a two-day drill weekend, totaling $187.60 of base pay per drill weekend.[63] Each NPS individual is issued an initial seabag, which has an approximate cost of $289.21. This cost covers all the initial uniform needs for new accessions including all insignia, nametapes, shoes, and personal items. Each fiscal year approximately 30 percent of seabags ordered are never picked up due to various reasons such as attrition and disqualification of NPS individuals. Approximately 14 percent of NPS accessions per Fiscal Year separate from the Naval Reserve during the first seven months, while only 2 percent separate once they have attended NRAC.[64] The 17-day NRAC in Great Lakes cost the Reserves $252.14 for each individual in residence. This cost covers the cost of food, berthing and ditty bag per NPS recruit.[65] The estimated daily cost is $14.83 per recruit.

Once NPS individuals have completed NRAC, they drill for eleven months, or 22 drill days. They then must complete another AT period, which on average is from 14 to 17 days, in order to fulfill their annual training requirement. (For this thesis, all active duty for training periods other than the actual basic training periods will be based on a 17-day period). They must then drill for another seven months, or 14 drill days, to fulfill their 84-day requirement and become qualified Reservists. (For this thesis, it is assumed that those accessions who did not attend NRAC still drilled at least as many drill days as those who did attend). For the two 17-day active duty-training periods, NPS individuals receive active duty pay, which is on average $308.63 per day.[66] Table 13 shows the estimated current training program costs to the Naval Reserve.

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[63] Defense Finance and Accounting Service (DFAS) Fiscal Year 2004 Reserve Drill Pay Chart.

[64] Jeff Knuth and David Rudd, 28-day proposal letter dated 10 July 2003.

[65] Recruit Training Command, NRAC Division, Navy Integrated Training Resources Administration System (NITRAS), May 2004.

[66] Commander Naval Reserve Forces Command, Fiscal Year 2004/2005 Department of the Navy Budget Estimates.

Table 13. Summary of Estimated Costs Under Current Training Program*

Cost Category	Dollar amount/recruit	Number of NPS	Total Cost (rounded to nearest dollar)
Recruiting		5,071	$27,738,725
Enlisted Bonus	$ 423		
Military Pay	$3,536		
Civilian Pay	$ 92		
Advertising	$ 628		
Operations and Maintenance	$1,511		
Total	$5,470		
Drill Pay (per drill day)	$ 93.80	50 drill days * 5,071	$23,782,990
Seabag	$ 289.21	5,071	$ 1,466,584
Annual Training	$ 308.63	34 AT days * 3,583	$37,597,924
RTC Costs/Recruit	$ 252.14 ($14.83/day)	3,583	$ 903,418
Total Est. Costs	$6413.78		$91,489,640

*All costs based on FY-03 estimates.[67]

C. PROPOSED 28-DAY TRAINING ALTERNATIVE

Under the 28-day proposal, the NRAC training in Great Lakes would be extended from 17 days to 28 days. Under one option, the training would commence immediately; under the second option, the NPS individual would be in the DEP until their training commencement date. For this section, it will be assumed that all individuals leave immediately. The DEP will be discussed separately later in this chapter. No infrastructure changes in Great Lakes would be needed to accommodate the additional days because current utilization is well below capacity. Current annual capacity of the NRAC training facility at RTC Great Lakes is 6,000, whereas just over 3,500 NPS individuals attended in FY03.[68] NRAC training would still be conducted separately from the active duty recruits. However, there would be additional responsibilities for the MEPS, as the NPS individuals would be processed there for transfer to RTC Great Lakes. This would include coordination between the MEPS enlisted liaison and the Reserve recruiter to ensure the successful transfer of each NPS individual to Great Lakes. Order processing and travel arrangements could still be completed through the Naval Reserve Order Writing System (NROWS), which would be handled by the NRA training

[67] Commander, Naval Recruiting Command Fiscal Year 2003.

[68] Recruit Training Command.

department. Upon completion of the 28-day training, each NPS Reservist would return to the NRA with which they are affiliated and are assigned to the NPS unit until completion of their 84 days of required training.

Under the current training program, Phase I, II, and IV training are currently conducted at the Reserve Centers; Reserve Centers are constrained by these training requirements to sending only those NPS individuals to Great Lakes who have completed Phase I and II. Phase IV is completed upon completed of NRAC. However, under the proposed 28-day training alternative, all phases of training would be completed at Great Lakes during the extended active training period so the training constraint would no longer be an issue. This may allow for more NPS accessions to complete NRAC sooner than they are able to under the current program.

The initial medical physical would be conducted at the MEPS (currently an acceptable option). Dental requirements would be completed once the individual reports to RTC Great Lakes for training. Coordination of these tasks is currently the responsibility of the NRA.

The costs and advantages detailed below will be based on the assumption that individuals leave immediately for training in Great Lakes. Under the 28-day training alternative, the average total time required to complete the 84 days required is 22 months or 1.10 years, which is five months less than the time required under the current program.

1. Proposed 28-Day Program Estimated Costs

Under the assumptions above, the costs under this program are similar to those in the 17-day program. Since the marginal effects of this program outlined in Tables 8 and 10 show very little negative recruiting effects from the extended active duty time, it is assumed that recruiting costs would remain $5,470 per NPS accession. Individuals would still be issued a seabag; however, it would be issued upon commencement of training in Great Lakes as is done for active duty members. NPS individuals would still be required to drill; they would drill for 12 months (24 drill days) upon completion of the 28-day active-duty period. Then, they would be obliged to complete another 17-day active

training period. Following this active duty period, they would have to drill for another 8 months (16 drill days) in order to complete the 84-day active duty training requirement. Table 14 illustrates the estimated costs of the 28-day proposed alternative training policy.

Table 14. Summary of Estimated Costs Under 28-Day Proposed Training Program*

Cost Category	Dollar Amount/Recruit	Number of NPS	Total Cost (rounded to nearest dollar)
Recruiting		5,071	$27,738,725
Enlisted Bonus	$ 423		
Military Pay	$3,536		
Civilian Pay	$ 92		
Advertising	$ 628		
Operations and Maintenance	$1,511		
Total	$5,470		
Drill Pay/drill day	$ 93.80	40 drill days* 3583 10 drill days* 1488**	$13,443,416 $ 1,395,744
Seabag	$ 289.21	3,583 NPS	$ 1,036,239
AT	$ 308.63	45 AT days * 3583	$49,761,958
RTC costs/recruit	$14.83 * 28 days	3,583	$ 1,487,805
Total Est. Costs	$6577		$94,863,887

*All costs based on FY-03 Estimates.[69]

**The remainder of NPS accessions who did not attend NRAC would have to complete the required drills for the Fiscal Year.

2. Proposed 28-Day Program Estimated Benefits

There are several benefits under the proposed 28-day alternative training program. Since NPS individuals report directly to RTC Great Lakes for their active duty-training period, tasks that are currently performed at the NRA's would be reduced. Under the current program, NRA personnel must conduct both the physical and classroom training needed to prepare recruits for NRAC. On average, this takes seven months per NPS recruit, and places a huge burden on the NRA staff, as these duties are typically collateral duties. However, with the extended active-duty time, Phase I, II, and IV training requirements would all be completed at Great Lakes. NPS personnel would be provided with trained instructors whose only responsibility would be to ensure that NPS personnel receive thorough training in all required areas. The Reserve center staffs would be

[69] Commander, Naval Recruiting Command Fiscal Year 2003.

alleviated of this collateral duty, which would enhance service to other drilling Reservists because all Reserve Center staff members would be focused on their full-time responsibilities.

Second, under the 28-day alternative, NPS accessions would be processed through the MEPS, which would be responsible for ensuring that NPS individuals reached RTC Great Lakes successfully. Currently, this responsibility falls to the NRA staff who must coordinate travel, prepare orders, and manage all administrative record upkeep. There would also be a lightened burden on the supply system, as all seabag issuance would be done when NPS personnel arrive at RTC. Additionally, there would be a cost savings for the Naval Reserve since no seabags would be ordered for individuals who leave the Naval Reserve. On average, 30 percent of the total seabags ordered per fiscal year, or approximately 1,521 seabags (based on 5,071 NPS Fiscal Year accessions) are never picked up.

A third benefit is that NRA medical personnel would no longer have to process, track, and treat NPS personnel for entry-level and follow-up medical and dental care. This would allow NRA personnel to focus on providing annual physicals and dental check-ups to keep other drilling Reservists mobilization and deployment ready.

Since NPS personnel enlist and report immediately for active duty training, the Naval Reserve would no longer have to pay these individuals for the approximately seven months they currently drill prior to leaving for NRAC. In FY-03, 3,583 attended NRAC, so any savings would apply to all who attend. This is more than a monetary savings; NPS attrition is approximately 14 percent in the first seven months prior to NRAC; attrition sharply declines to approximately 2 percent once individuals have completed NRAC.[70] This is assumed to be because Reserve personnel have completed the active duty training, a source of apprehension for many Reservists. For 5,071 annual NPS accessions, which equates to an estimated 423 accessions per month, approximately 415 NPS individuals would separate from the Naval Reserve in the first seven months. So, the Naval Reserve would not only save the drill pay for these seven months, but would

[70] COMNAVRESFOR study on NPS attrition as cited by Knuth, Jeffrey and David Rudd, 28-day proposal letter dated 10 July 2003.

also save on the recruiting costs of accessing personnel to replace those who would have separated. Under the assumptions above, the recruiting cost savings are $2.27 million, the drill pay savings for the seven months are $3,4 million, and the savings in seabags that are not picked up are $.43 million, for a total estimated savings of $6.07 million. However, Table 14 shows total estimated costs under the 28-day program to be $94.8 million, a $3.3 million increase over the $91.5 million current total training costs. So, for the 28-day training proposal, there would be an estimated net savings of $2.8 million ($6.07m-$3.3m). Table 15 outlines the estimated cost savings under the proposed 28-day training program as compared to the current program.

Table 15. Summary of Estimated Savings Under 28-Day Proposed Training Program*

Savings Category	Dollar Amount/recruit	Number/category	Total Savings (rounded to nearest dollar)
Recruiting	$5,470	415 attrites	$2,270,050
Drill Pay/drill day	$ 93.80	10 drill days * 3,583	$3,360,854
Seabag	$ 289.21	1,521	$ 439,888
Total Est. Savings	$5,853		$6,070,792

*Dollar amounts based on FY-03 Numbers and rounded to the nearest dollar[71]

D. PROPOSED 77-DAY TRAINING PROGRAM

This program would be modeled after the active-duty basic training program used to train new active duty recruits. The active duty training period in Great Lakes would be extended from 17 days to 77 days. It should be noted that although active basic training is currently only 70 days, an additional 7 days have been added to cover any processing time needed to bring NPS Reservists on active duty. Under one option, training would commence immediately; under the second option, NPS personnel would enter the DEP until their training commencement date. For this section, it will be assumed that all individuals commence training immediately. The DEP will be discussed separately later on in this chapter.

[71] Commander, Naval Recruiting Command Fiscal Year 2003.

Currently, active recruits report to Great Lakes for approximately 10 weeks. RTC Great Lakes has an annual training capacity of 89,000 recruits, and a 10-week capacity of 16,168 recruits. However, approximately 45 percent of recruits are trained during the months of June through September. For FY-03, 34,299 active Navy recruits were trained at RTC Great Lakes, which is approximately 38 percent of the current annual capacity.[72]

Active recruits are staggered for training by using the DEP option and assigning reservations throughout the year as recruits enlist. Upon arrival, recruits are formed up into companies of approximately 80 to 88 recruits. Each company has three Recruit Division Commanders (RDCs) who are charged with the training and guidance of their company recruits for the entire 10-week period.

The recruiting process would remain unchanged, as Reserve and active recruiting have been integrated. However, recruiting may become more difficult due to the longer active duty period, which may make recruiting goals more challenging to meet. Under this program an average of 59 percent of personnel surveyed stated that they were not likely to have enlisted had this option been in place. This is more than half of the current NPS population, which could jeopardize the Reserves' ability to meet end-strength. To counteract this effect, more recruiters and recruiting incentives may be required. All of these factors combined may add substantial cost to the recruitment of NPS accessions. However, there is a potential argument that although NPS accessions and subsequently Reserve end-strength may decline, more Reservists would be available for mobilization and deployment, offsetting the loss of potential recruits. Although the Naval Reserve currently meets end-strength, the majority of NPS personnel are virtually ineffective since they cannot be assigned to fulfill any Reserve requirements until completion of their training. Under the 77-day training proposal, the Reserves may recruit less in numbers, but will actually gain in assets that can be used.

MEPS responsibilities would also increase under this option. All NPS accessions would go through the same in-processing as their active duty counterparts; this may raise costs at the MEPS and require additional personnel to handle the extra workload. Since

[72] Bureau of Naval Personnel, Code N00T24, Director of Naval Education and Training, May 2004.

MEPS and active-duty manpower requirements are funded by military personnel-navy (MPN) appropriations, and Reserve training and manpower requirements are funded by Reserve military personnel-navy (RPN) appropriations, an agreement between the Reserve and Active Components may be necessary to work out any funding issues and manpower requirement issues for any supplementary personnel needed.

Under this option, NPS Reserve personnel would be integrated into the active duty recruit companies; the separate training track currently in place would be discontinued. Each recruit company would consist of both Reserve and active recruits, and the term "NRAC" would no longer be used. The training personnel currently in place to administer the NRAC would be integrated with the training personnel administering basic training to active duty recruits. This may also require the Reserve and Active Components to address any manpower requirement issues that may arise.

In a manner similar to the 28-day alternative, seabags would be issued upon arrival at RTC. Additionally, all medical and dental issues that could not be handled by the MEPS would be handled by RTC upon arrival.

NPS personnel would not drill prior to reporting to Great Lakes for training. Coordination between the Reserve recruiters and the MEPS active duty Navy liaisons would be necessary to ensure each NPS individual's successful arrival at the MEPS 24 hours prior to their report date to Great Lakes and their subsequent transfer to RTC Great Lakes. NROWS would no longer be used to cut orders for NPS personnel. All paperwork and process scheduling completed at the MEPS would have to identify each member as a "Reserve Non-prior Service Applicant" and the MEPS enlisted processor would need to coordinate with the Bureau of Naval Personnel (BUPERS) Code N321, to obtain a standard document number for completion of Initial Active Duty for Training (IADT) orders.[73]

[73] Commander, Naval Reserve Recruiting Command Draft Instruction 1133, "Non-Prior Service (NPS) Basic Program," May 2003.

Upon completion of basic training, NPS individuals would report to the NRA and would begin drilling with a regular unit. NPS units would no longer be necessary so the end-strength currently in place for those requirements could be disseminated throughout the Reserves; some of this end-strength could possibly be used to establish Reserve liaison billets in both the MEPS and RTC Great Lakes to smooth the integration of Reserve and active recruit training.

The costs of the 77-day training alternative would be substantial; however, there would also be a substantial benefit for the Reserve Force. Under this option, each NPS individual would have completed the 84-day training requirement four months after completion of basic training. Unit readiness and Reserve readiness as a whole would be substantially improved.

1. Proposed 77-day Program Estimated Costs

The estimated costs under this proposed alternative are similar to those in both the 28-day alternative and the current program. In some instances however, the costs could be considerably higher. One area in particular would be recruiting. The marginal effects for this alternative show a decline in the likelihood to enlist as compared to the current program and the 28-day policy alternative. This could result in the need for more recruiters, longer recruiter hours, and more difficulty making the recruiting goals for Reserve accessions. Assuming that NPS accession numbers would decrease by almost 60 percent, the current estimated recruiting cost of $5,740 per NPS accession could increase by $6,314 for an estimated total per accession cost of $12,054.

Seabags would still have to be issued; however, this would be done upon each NPS individual reporting to Great Lakes. Also, NPS individuals would still be required to drill upon completion of basic training; to complete the 84-day training requirement, they would have to drill for four months, or 8 drills.

The capacity of the active-duty training facility is much larger than the NRAC facility, so for this alternative, it will be assumed that the entire number of FY-03 NPS accessions could complete the program under the 77-day alternative. Table 16 outlines the estimated costs of the 77-day alternative training policy.

Table 16. Summary of Estimated Costs Under 77-Day Proposed Training Program

Cost Category	Dollar Amount/Recruit	Number of NPS	Total Cost (rounded to nearest dollar)
Recruiting**	$12,054	5,071	$61,125,834
Enlisted Bonus			
Military Pay			
Civilian Pay			
Advertising			
Operations and Maintenance	$12,054		
Total			
Drill Pay/drill day	$93.80	14 drill days * 5071	$6,659,237
Seabag	$289.21	5,071	$1,466,584
Annual Training	$309	77 AT days * 5071	$120,509,830
RTC Costs/Recruit	$14.82 * 77 days	5071	$5,786,721
Total Est. Costs	$13,887.15		$162,161,097

*Dollar amounts based on FY-03 Numbers.[74]
**It is assumed that the costs in all recruiting subcategories would increase but by how much is unknown without further research.

2. Proposed 77-Day Program Estimated Benefits

The 77-day alternative has the same benefits as the 28-day alternative. The NRA's would be alleviated of much of the workload associated with preparing NPS personnel for NRAC, as these responsibilities would be absorbed by both the MEPS and RTC Great Lakes. Additionally, the 14 percent attrition rate currently experienced by the Naval Reserve of NPS personnel prior to attending NRAC may be alleviated, saving on recruiting costs.[75]

Paying NPS personnel drill pay prior to their completion of the mandatory 84-day training day would be virtually eliminated; only 4 months, or 8 drill days would be paid prior to the training requirement being met.

The biggest benefit of the 77-day training alternative is that NPS personnel would complete the 84 days of required training almost immediately after enlisting. Inclusive of basic training, NPS individuals would be able to mobilize and deploy 6 months after enlistment. This is 21 months earlier than under the current program and 15 months

[74] Commander, Naval Recruiting Command Fiscal Year 2003.

[75] COMNAVRESFOR study on NPS attrition as cited by Knuth, Jeffrey and David Rudd, 28-day proposal letter dated 10 July 2003.

earlier than the 28-day training alternative. Though it would be difficult to quantify this without in-depth research, the benefits to the Naval Reserve in terms of unit and individual readiness would be substantial.

Table 17 shows the estimated savings under the 77-day training alternative. Under the assumptions above, the recruiting cost savings are $2.3 million, the 23 months of drill pay saved is $21.9 million, and savings in seabags not picked up are $.43 million, for a total savings of $24.6 million. However, Table 16 shows estimated costs under the 77-day program to be $162.2 million, a $70.7 million increase over the $91.5 million current training costs. The 77-day training proposal would have an estimated net cost increase of $46.1 million. Appendix B provides a summary of all costs and benefits for the current training program and both alternative training proposals.

Table 17. Summary of Estimated Savings Under 77-Day Proposed Training Program*

Savings Category	Dollar Amount/recruit	Number of NPS	Total Savings (rounded to the nearest dollar)
Recruiting	$5,470	415 attrites	$2,270,050
Drill Pay/drill day	$93.80	46 drill days * 5,071	$21,880,351
Seabag	$289.21	1,521	$439,888
Total Est. savings	$5853.01		$24,590,289

*Dollar amounts based on FY-03 Numbers.[76]

E. DELAYED ENTRY PROGRAM

The delayed entry program (DEP) is a recruiting tool currently used by active-duty recruiters to provide potential recruits more flexibility in deciding when they will attend basic training. DEP allows individuals to delay up to 365 days before they have to ship out. Further, it provides the active Navy with an effective method of utilizing its training resources while minimizing training variability. This is accomplished by scheduling new recruits throughout the year through the Navy recruiting reservation

[76] Commander, Naval Recruiting Command Fiscal Year 2003.

system. Recruits are given a reservation date that guarantees them a seat during a specific basic training period. Without the DEP, recruiters would be forced to ship recruits at the start of each training cycle, reducing the flexibility of choice for the recruit and causing extreme variability in training numbers.[77]

While in DEP, new recruits have obligated themselves to the Navy, but they draw no pay. The time accrued in DEP, however, does count toward retirement.

1. Recruiter Responsibilities[78]

In order for the DEP to be successful, recruiters must keep track of those enrolled. This requires constant contact between the recruiter and his or her applicants. First, monthly DEP training meetings must be held to ensure that all new accessions are equipped with the necessary knowledge needed to excel at Great Lakes. These training meetings provide many of the general training lessons learned by NPS personnel during Phase II of the current program, and include such items as the rank recognition, the Sailors Creed, and common Navy acronyms.

Second, recruiters must sit down with each applicant to outline goals and expectations for DEP time. This includes assisting with career goals, counseling on required coursework, and providing all study material necessary for new recruits to prepare for basic training.

Third, recruiters are responsible to speak with each applicant at least three times monthly; this can include the monthly training meeting.

2. Recruit Responsibilities[79]

While enrolled in DEP, new recruits must maintain eligibility requirements. These include maintaining acceptable body fat and physical training levels, completing all required coursework, and attending the monthly training meeting.

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[77] Michael K. Nakada, "Delayed Entry Program (DEP) Attrition: Recruits, Recruiters, Contracts, and Economics," Navy Personnel Research and Development Center, November 1994, p. iv.

[78] Navy Recruiting Command Delayed Entry Program Guide, http://www.cnrc.navy.mil/cnrc/dep/recruiter. Accessed May 2004.

[79] Ibid.

3. Potential Costs to the Reserves

If either the 28-day or 77-day alternative training policy was implemented, the DEP would need to coordinate and control the flow of NPS Reserve recruits through the training facilities at Great Lakes as is currently done under the active duty DEP program. This would require training for all Reserve recruiters on lesson plans, and the tracking methodology currently used by active recruiters to ensure required monthly contacts are met. However, this training could be accomplished relatively easily since the Reserve and active recruiting commands have merged into a single organization. Since there is currently crossover between the two recruiting Components, introducing the DEP into the NPS accession program should not be too costly. It should be noted, however, that this DEP time would also count toward retirement for Reservists, and would need to be accounted for if trying to quantify the cost of establishing Reserve DEP. Also, these costs would only apply to NPS Reserve accessions; NAVETS and OSVETS are not required to attend basic training since they are coming off active duty. These assumptions are the author's, as there is nothing in the current literature that addresses this issue. A summary of these costs are include in Table 18.

4. Potential Benefits to the Reserves

If either the 28-day or 77-day proposed training alternative was implemented, Reserve recruiting would likely see a decline in its NPS accession numbers, particularly under the 77-day option. Reserve training is unique; potential NPS applicants may already have a full-time job, be attending school full-time, or have families they are loathe to leave for an extended time. With DEP as an option, Reserve recruiters would have a tool that would allow the potential NPS individual some control over when they would attend the longer active duty training. This may also make it more palatable to potential applicants who may balk when initially hearing about the longer required active training time. Additionally, introducing the DEP to the Reserves further aligns it with the active duty Navy, providing standardization and cohesion between the two Components. A summary of these benefits are included in Table 18.

Table 18. Summary of Costs and Benefits of Implementing the Delayed Entry Program (DEP) for NPS Reserve Accessions

ADVANTAGES (BENEFITS) OF RESERVE DEP	WHO BENEFITS	DISADVANTAGES (COSTS) OF RESERVE DEP	RESPONSIBLE ENTITY
Increased Flexibility for NPS Accessions of Timing of Active Duty Training	NPS Recruit and Naval Reserve	DEP Coordination and Tracking	Recruiters
More Efficient Use of Training Resources	Active and Reserve Navy	Accrued Retirement Time	Department of Defense
Drill Pay Savings	Naval Reserve		
Reduced Attrition	Active and Reserve Navy		

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VII. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A. SUMMARY

The current Reserve NPS accession program is a successful recruiting tool that attracts quality individuals into the Reserves. One of the reasons for its success is the relatively short basic training period of 17 days. However, it is also the program's biggest disadvantage since all Reservists must complete 84 days of active training before they can be deployed or mobilized. Because the majority of this training time is done through drill weekends, it takes an average of 2.3 years per NPS accession before they become fully qualified Reserve assets.

A 28-day and 77-day alternative training policy to the current NPS training program are examined to see the effects a more lengthy training period may have on both NPS recruiting and Reserve readiness. A web-based survey was given to all NPS personnel currently in a drill status to see if they would still have enlisted in the Reserves if either one of the two alternatives were in place. Demographic questions were included in the survey.

Tabulations are made by Age, Gender, Race, Marital Status, Number of Children, Education, Income, PayGrade, Length of Service, and whether or not they had already attended NRAC to estimate the likelihood of enlisting under one of the two training options. For the 28-day alternative that offered no DEP option, the responses were positive across all categories, but showed lower likelihoods for those in older age categories, Caucasians, married individuals, those with children, those with a college degree, and those in the highest income group. Gender did not seem to matter as both groups showed a high likelihood of 72 percent. For the 28-day alternative that included the DEP option, across all categories, with a few notable exceptions, showed a lower propensity than when DEP was not an option. Caucasians and those individuals in the highest income group showed a more positive response when DEP was an option.

For the 77-day alternative, sharp declines in likelihood are apparent across all demographic categories; those in the highest categories still show a propensity of 50 percent or less. The 77-day no DEP option showed that those in the younger age category, those not married, those with no college education, minorities, and those in the lower income brackets were most likely to enlist under this option. Respondents showed the least propensity for the 77-day with DEP option, although this option seemed to be more attractive to those older, more educated, and in the highest income groups than the no DEP option.

All four training options seemed to be most attractive to those who are younger, are high school graduates, and in the lowest income brackets.

Chapter V shows the multivariate regression results that use data taken from the survey results. Four separate models are shown to examine the results across both 28-day options and both 77-day options. Independent variables for personal characteristics were used in all four models, with the dependent variable for each model reflecting the option being examined.

The results of all four models are similar to those found in the cross-tabulations, with some exceptions. For the 28-day no DEP model and both the 77-day models, females show a lower likelihood to enlist than males. For the 28-day no DEP model, individuals ages 27 and over showed a higher likelihood to enlist. For both the 28-day and 77-day with DEP models, minorities showed a lower likelihood to enlist than when DEP was not an option. Divorced individuals show a more positive response to the 77-day no DEP option than either of the 28-day options. A summary of the marginal effects for all four models can be found in Appendix B.

Chapter VI examines the costs and benefits for the current NPS training program as well as both 28-day and 77-day training options. Additionally, the active duty DEP program is examined. FY03 cost data and accession numbers were used to calculate estimated costs and savings for all programs. Under the current program, it takes an average of 27 months for an NPS individual to complete the 84 days of training. During

this time, these individuals drill at the Reserve Centers prior to their 17-day basic training at Great Lakes. The estimated cost to the Reserves per NPS recruit under the current training program is $6,414, with an estimated total cost of $91.5 million.

For the 28-day training option, no drills are performed by the NPS recruit prior to attending basic training at Great Lakes. All training currently conducted at the Reserve Centers would be completed at RTC. All medical, dental, and administrative processing would be conducted by the MEPS and issuance of uniforms would be done at RTC. This option would result in the average NPS recruit completing the required 84-days in 21 months, 5 months sooner than the current program allows. The estimated cost to the Reserves per NPS recruit under the 28-day training option is $6,577, with an estimated total cost of $94.9 million. The estimated savings per NPS recruit is $5,853, with an estimated total savings of $6.07 million. Under this option, there is an estimated total net savings of $2.8 million.

The 77-day training option is set up the same as the 28-day option. However, under this option, the average NPS recruit would complete the required 84 days of training in 6 months, inclusive of basic training. So, all required drills would be completed after the first four months following basic training. This allows for each NPS individual to complete the required training 21 months sooner than the current program allows, and 15 months sooner than the 28-day option allows. The estimated cost to the Reserves per NPS recruit is $13,887, with an estimated total cost of $162.2 million. The estimated savings per NPS recruit is $5,853, with an estimated total savings of $24.6 million. Under this option, there is an additional estimated cost of $46.1 million. These additional costs can be attributed to the longer active duty period as well as the additional recruiting costs due to the decline in propensity of potential NPS individuals to enlist under this option.

The Reserve DEP option would require training for all Reserve recruiters. This could be accomplished quite easily since active and Reserve recruiting have been integrated. The DEP would require constant monitoring and contact with those enrolled,

which could potentially add costs to the current program. However, it would allow full training integration of Reserve and active recruits, and allow for a smooth throughput of Reserve recruits throughout the training cycle.

B. CONCLUSIONS

This thesis explored alternative training options to the current Reserve NPS accession program. Since September 11, 2001, world events have required the mobilization of personnel across all Reserve Components. During the mobilization process, it became apparent that the current training program for NPS did not adequately meet the needs of Naval Reserve readiness.

The current Reserve NPS accession program is able to attract enough quality applicants for the Reserves to meet end-strength requirements, even with the decline in the availability of veterans. However, these individuals cannot be fully utilized for Reserve missions for almost two and a half years after they enlist. This decreases Reserve readiness since these individuals cannot contribute to unit readiness, nor can they individually deploy. This becomes especially problematic during times of mobilization. Currently, 92 percent of NPS accessions cannot be mobilized because of the lack of required training time. Additionally, the current structure of the NPS accession program places a huge burden on Reserve Centers who are tasked with the training and processing of all NPS personnel. These responsibilities become collateral duties to senior full-time support personnel; Reserve Centers do not have funded requirements for full-time NPS trainers.

The study shows that there would likely be a decrease in enlistments if either the 28-day or 77-day training option were implemented; this decrease is minimal for the 28-day option, but substantial for the 77-day training option, especially for the current demographic makeup of NPS personnel. Currently, the majority of NPS personnel are at least 27 years old, are married with children, and have already established careers or are in school full-time. However, if the recruiting focus was to shift to recruiting individuals during their senior year of high school, the impact of the lengthier training periods may be minimized. These individuals show the highest likelihood to enlist under either option.

If either option were implemented, the DEP would have to be available to allow potential recruits some flexibility in the scheduling of the active duty basic training period. With the unique nature of being a Reservist, this would be a necessary recruiting tool to make these options more attractive.

Both the 28-day and 77-day options would shorten the time it currently takes for NPS personnel to complete the required 84 training days; this is much more substantial for the 77-day program since NPS personnel would be fully qualified four months after attending basic training as opposed to the 21 months it would still take under the 28-day option. Additionally, Reserve Centers would no longer bear the burden of training and processing NPS personnel, and the training of these individuals would be more aligned with the active duty personnel.

Both training options would likely result in higher costs. However, with the savings that are also estimated, the 28-day option would actually be less costly to the Reserves than the current program. The 77-day option would cost more than the current program because of the lengthy active duty period. However, these costs would need to be weighed against the advantages that the Reserves would have a much more trained and ready force that currently exists. This not only applies to the actual monetary costs incurred, but the costs of potentially not meeting end-strength due to the decline in the number of potential enlistees. Although the Reserve Force currently meets end-strength, in large part due to the number of NPS accessions, these individuals cannot be utilized for over two years, but are filling valid, funded requirements, and are being paid to fill them.

Of the two options, the 77-day, full basic training option would better enhance Reserve readiness by providing fully trained NPS personnel almost immediately after enlistment. Unit readiness would increase, and the Reserves could better meet the needs of the active duty gaining commands, and the Resource Sponsors who fund the requirements. Additionally, Reservists would be fully integrated with their active duty counterparts, so both active duty and Reserve recruits would receive identical training instead of the segregated training currently in place.

C. RECOMMENDATIONS

A comprehensive cost-benefit analysis of the 77-day program should be conducted. This should include a complete assessment of the current MEPS, RTC, and CNRC processes to see what changes would be necessary to meet the needs of this program. A complete requirements analysis should be done to examine if extra manpower requirements would be necessary with the added workload. Included in this analysis should be the potential integration of full-time support personnel into these programs to allow for cross training between full-time support and active duty personnel. Since both the MEPS and RTC currently perform some functions involving Reserve recruits, expanding these functions currently in place should be a consideration. This would allow for the smooth processing of all recruits, regardless of active or Reserve affiliation.

Both active and Reserve recruiter training should be analyzed to incorporate cross-training so any recruiter, regardless of Reserve or active, would be able to process both active and Reserve accessions and ensure the smooth transition of these individuals into Naval service. Since recruiting for both Components has already been consolidated, this could be accomplished quite easily.

A thorough analysis of the DEP should be conducted to examine the costs associated with implementing it for the Reserves. These costs should include accrued retirement, attrition while in the DEP, and the added costs of managing the additional personnel in comparison to the current program in place.

Based on the information available and the analysis conducted in this thesis, several recommendations appear to be warranted. The current NPS accession program should be phased out until all those who have enlisted under the current training policy have completed NRAC. The 77-day with DEP training alternative should be implemented immediately for all new NPS accessions, and the recruiting focus should shift to primarily target high school seniors recent graduates (age group 18-22). Both cash and non-cash costs would increase in the short-term. Training, active duty pay, and recruiting costs would likely increase. Although end-strength may not be met in the first few years, long-term benefits should outweigh these costs.

New Reserve accessions would receive the required training immediately, enhancing their performance and readiness to fulfill the requirements of the billets assigned. This training would be conducted alongside their active duty enlisted counterparts, aligning the two Components more closely and streamlining the training process. With the initiative underway to integrate the Naval Reserve Force with active duty Navy, this training proposal would foster integration from the time of enlistment. Additionally, NPS personnel would no longer be constrained from deploying, participating in active-duty exercises, and mobilizing. This would greatly increase both individual, unit, and overall Reserve readiness. Even with negative effects on end strength, the Reserve units would be more fully qualified to complete their missions since each NPS individual would have all necessary baseline training and could participate and contribute to all Reserve unit tasks. The Reserve Centers would be better equipped to handle their full-time responsibilities, improving customer service to all drilling Reservists.

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APPENDIX A. NON-PRIOR SERVICE ACCESSION QUESTIONNAIRE

SECTION ONE

For questions 1 through 10, please fill in the most appropriate response

1. What is your age?
    - ○ 18-22
    - ○ 23-26
    - ○ 27-34
    - ○ 35 and over

2. What is your gender?
    - ○ Male
    - ○ Female

3. What is your race?
    - ○ Caucasian
    - ○ Hispanic
    - ○ Black
    - ○ Asian/Pacific Islander
    - ○ Other

4. What is your marital status?
    - ○ Never been married
    - ○ Divorced
    - ○ Married
    - ○ Separated

5. How many children do you have?
    - ○ None
    - ○ One
    - ○ Two
    - ○ Three
    - ○ Four or more

6. What is your highest education level attained?
    - ○ GED
    - ○ High School Diploma
    - ○ Some College
    - ○ Associates Degree
    - ○ Bachelors Degree
    - ○ Masters Degree
    - ○ Doctoral Degree

7. What is your annual income?
    - ○ Less than $25,000
    - ○ $25,000 - $34,999
    - ○ $35,000 - $44,999
    - ○ $45,000 - $54,999
    - ○ $55,000 - $64,999
    - ○ $65,000 and over

8. What is your current pay grade?
    - ○ E1
    - ○ E2
    - ○ E3
    - ○ E4
    - ○ E5
    - ○ E6

9. How long have you been affiliated with the Naval Reserve?
    - ○ Less than one month
    - ○ Two to three months
    - ○ Four to six months
    - ○ Six to nine months
    - ○ Nine to twelve months
    - ○ More than twelve months
    - ○ More than twenty-four months

10. Have you attended the Non-Prior Service Accession Course (NPSAC)/Naval Reserve Accession Course (NRAC)?
    - ○ Yes
    - ○ No

SECTION TWO

11. Please rank order your top four choices as to why you decided to enlist in the Naval Reserve. Use 1 to indicate the most important factor, 2 to indicate the second most important factor, etc.

__ Commissary/Exchange Benefits
__ Education Benefits
__ Extra Income
__ Gain job experience
__ Learn a new skill
__ Medical/Dental Benefits
__ Retirement Benefits
__ Serve my country
__ Travel

For questions 12 and 13, please indicate the most appropriate response.

12. I would affiliate with the Naval Reserve if I had a 28-day active duty basic training obligation that commenced immediately after enlisting.

○ Extremely likely
○ Likely
○ Not very likely
○ No Chance

13. I would affiliate with the Naval Reserve if I had a 77 day active duty basic training obligation (full boot camp completed with active duty recruits) that commenced immediately after enlisting.

○ Extremely likely
○ Likely
○ Not very likely
○ No Chance

For questions 14 and 15, please use the explanation of delayed entry below to assist you in answering the questions:

Delayed Entry status: A program under which an individual may enlist in the Naval Reserve and specify a future reporting date to attend the active duty period for basic training. While in the Delayed Entry Program, you would not be in a drilling status, and as such, would not receive drill pay.

14. I would affiliate with the Naval Reserve if I had a 28-day active duty basic training obligation, and was in a delayed entry status until I was able to attend.

- ○ Extremely likely
- ○ Likely
- ○ Not very likely
- ○ No Chance

15. I would affiliate with the Naval Reserve if I had a **77-**day active duty basic training obligation, (full boot camp completed with active duty recruits) and was in a delayed entry status until I was able to attend.

- ○ Extremely likely
- ○ Likely
- ○ Not very likely
- ○ No Chance

APPENDIX B. SUMMARY OF THE MARGINAL EFFECTS OF THE VARIABLES USED IN THE FOUR MODELS

VARIABLES	28-DAY NO DEP	28-DAY W/DEP	77-DAY NO DEP	77-DAY W/DEP
FEMALE	-0.03354*	-0.021181	-0.04820**	-0.04820**
MALE	Base case	Base case	Base case	Base case
AGE23TO26	-0.09842**	-0.023007	-0.00422	-0.00422
AGE27OVR	-0.05123	-0.033022	0.00920	0.00920
AGE18TO22	Base case	Base Case	Base case	Base case
DIVORCED	0.05522***	0.052282**	0.11244***	0.11244***
SINGLE	0.07736***	0.054226***	0.07966***	0.07966***
MARRIED	Base case	Base case	Base case	Base case
GED	0.13336***	0.097019**	0.14789***	0.14789***
SMCOL	0.00818	0.039807	0.01495	0.01495
COLDEG	-0.07071**	-0.028955	-0.10206***	-0.10206***
HSDIP	Base case	Base case	Base Case	Base Case
AT25TO44	0.02145	0.023321	-0.04820*	-0.04820*
OVER45	-0.09340***	-0.064429**	-0.14999***	-0.14999***
LESS 25	Base case	Base case	Base case	Base case
API	0.00232	-0.086592***	0.08302***	0.08302***
BLACK	0.01932	-0.049529*	0.10698***	0.10698***
HISP	0.00103	-0.092558***	-0.00563	-0.00563
CAUC	Base Case	Base case	Base case	Base case

***=Significant at .01
**=Significant at .05
*=Significant at .10

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APPENDIX C. SUMMARY OF THE ESTIMATED COSTS AND BENEFITS FOR CURRENT AND PROPOSED TRAINING PROGRAMS

CATEGORY	CURRENT TRAINING PROGRAM	28-DAY TRAINING ALTERNATIVE	77-DAY TRAINING ALTERNATIVE (rounded to the nearest dollar)
Costs			
Recruiting	$27,738,725	$27,738,725	$61,125,834
Drill Pay/drill day	$23,782,990	$13,443,416 $1,395,744	$6,659,237
Seabag	$1,466,584	$1,036,239	$1,466,584
Annual Training	$37,597,924	$49,761,958	$120,509,830
RTC Costs/Recruit	$903,418	$1,487,805	$5,786,721
Total Est. Costs	$91,489,640	$94,863,887	$162,161,097
Benefits			
Recruiting		$2,270,050	$2,270,050
Drill Pay/drill day		$3,360,854	$21,880,351
Seabag		$439,888	$439,888
Total Est. Benefits		**$6,070,792**	**$24,590,289**
Net Costs/Benefits		**$2,696,545**	**($46,081,168)**

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